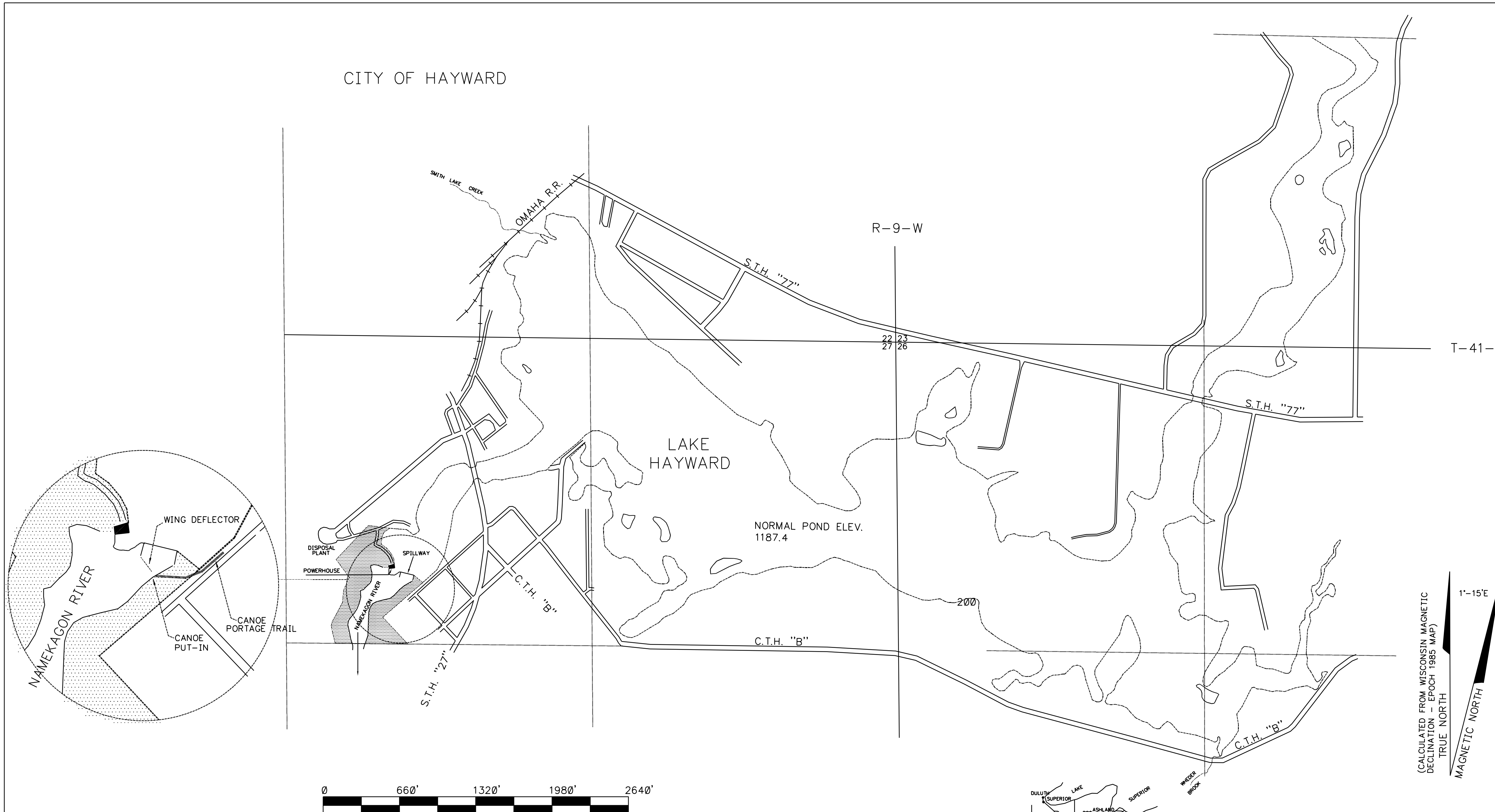
APPENDIX 3.2.2-1 **Current Hayward Exhibit G**



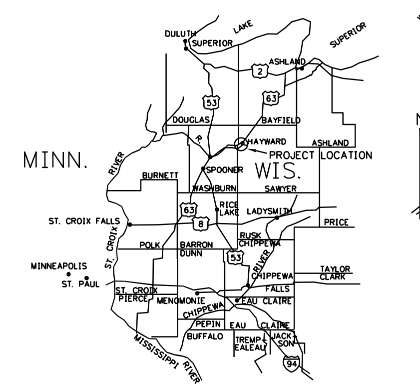
NOTE

The project boundary follows the high water elevation of the storage pond and includes some lands owned by the Licensee around the dam and power plant.

THIS DRAWING IS PART OF THE APPLICATION FOR LICENSE
MADE BY THE UNDERSIGNED OF THIS ____DAY OF ______________
______________________________ VICE PRESIDENT POWER SUPPLY

LEGEND

- FULL POND ELEVATION/ PROJECT BOUNDARY
- PUBLIC ROADWAYS
- SECTION LINE
- 1/4 SECTION LINE
- NSPW LANDS
- CANOE PORTAGE TRAIL



LOCATION PLAN
SCALE 0 5 10 20 MILES

EXHIBIT G

NORTHERN STATES POWER CO. (WIS) EAU CLAIRE, WISCONSIN

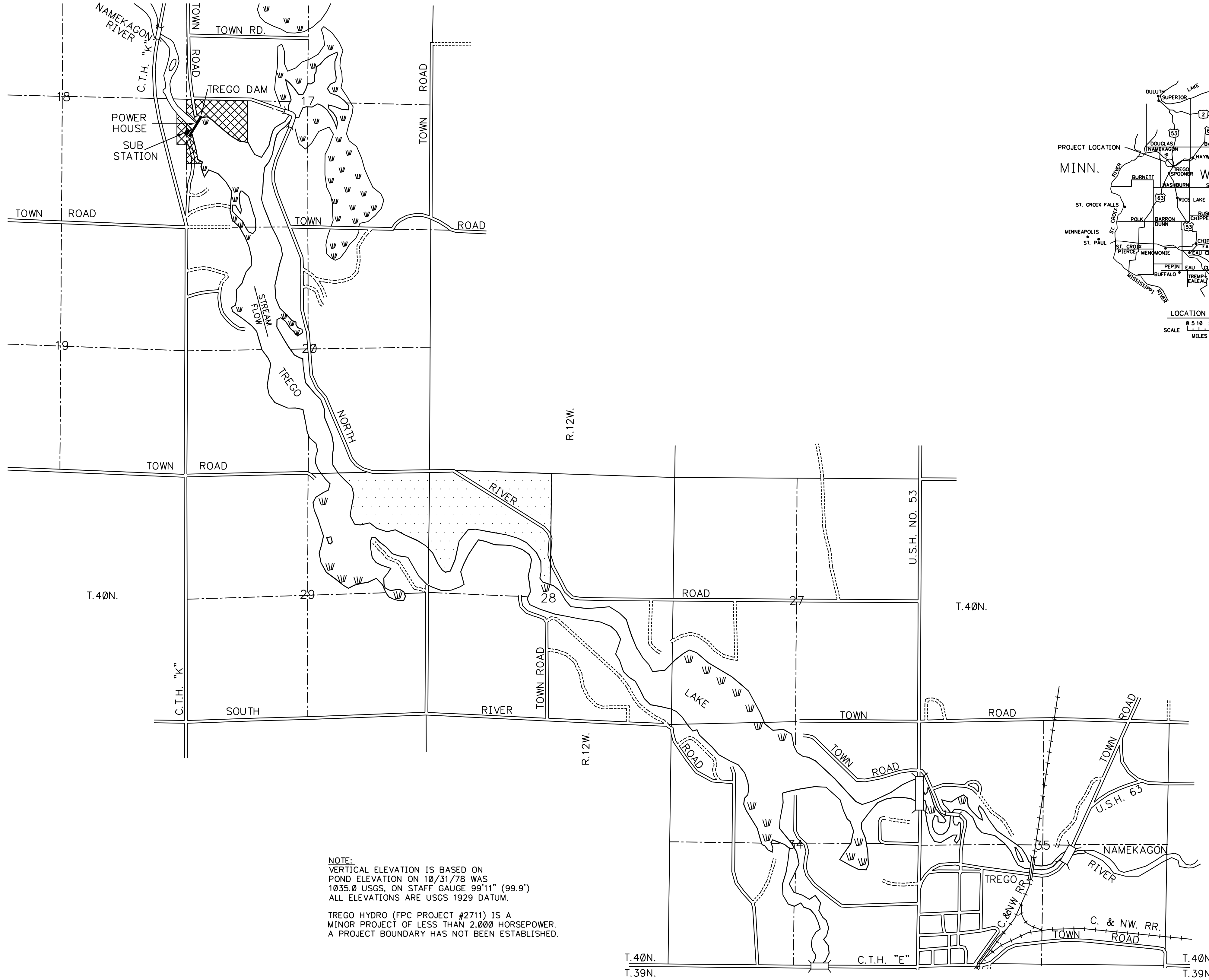
HAYWARD DAM

FERC PROJECT NO. 2417
SAWYER COUNTY, WISCONSIN

PROJECT MAP

SCALE SEE ABOVE DATE: 11/20/98

APPENDIX 3.3.2-1 **Current Trego Exhibit G**



NOTE:
VERTICAL ELEVATION IS BASED ON POND ELEVATION ON 10/31/78 WAS 1035.Ø USGS, ON STAFF GAUGE 99'11" (99.9') ALL ELEVATIONS ARE USGS 1929 DATUM.

TREGO HYDRO (FPC PROJECT #2711) IS A MINOR PROJECT OF LESS THAN 2,000 HORSEPOWER. A PROJECT BOUNDARY HAS NOT BEEN ESTABLISHED.

THIS DRAWING IS PART OF THE APPLICATION FOR LICENSE
MADE BY THE UNDERSIGNED OF THIS ____ DAY OF ______________
______________________ VICE PRESIDENT POWER SUPPLY

EXHIBIT G

NORTHERN STATES POWER CO. (WIS) EAU CLAIRE, WISCONSIN

TREGO HYDRO
FERC PROJECT NO. 2711
WASHBURN COUNTY, WISCONSIN

PROJECT MAP

SCALE SEE ABOVE DATE

FERC DRAWING # 2711-4

K:\PROJECTS\HYDRO\TREGO1

APPENDIX 3.5.1.1-1 Hayward Project Existing FERC License

950906-0131

950906-0131

72 FERC ¶ 62,204

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners:

Northern States Power Company | Project No. 2417-001
Wisconsin

ORDER ISSUING SUBSEQUENT LICENSE
(Minor Project)

SEP - 1 1995

INTRODUCTION

On December 23, 1991, Northern States Power Company (Northern States) filed a subsequent license application 1/ under Part I of the Federal Power Act (FPA) 2/ to continue to operate and maintain the existing 168 kilowatt (kW) Hayward Hydroelectric Project located on the Namekagon River, in the City of ~~Hayward, Sawyer County~~, Wisconsin. The Namekagon River is a navigable waterway of the United States. 3/ The current license for this project expired on December 31, 1993. 4/

BACKGROUND

Notice of the application has been published. A motion to intervene in this proceeding was filed by the Wisconsin Department of Natural Resources (WDNR) to be a party to the proceeding. The U.S. Department of the Interior (Interior), although not requesting intervenor status, has filed comment. Issues raised in the intervention and comments received from interested agencies and individuals have been fully considered in determining whether to issue this license.

The Federal Energy Regulatory Commission (Commission) issued the Hayward Hydroelectric Project Draft Environmental Assessment (DEA) for comment on June 16, 1994. The Final Environmental Assessment (FEA) for this project is being issued at this time

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1/ A subsequent license is issued for a minor project whenever sections 14 and 15 of the FPA were waived in the project's original license. Northern States did not request that section 14 and 15 not be waived.

2/ 16 U.S.C. § 797(f).

3/ See 67 FERC 61,282

4/ 38 FPC 476 (1967)

9509060131

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SEP - 1 1995

DC-A-2

and is attached to and made part of the license. The FEA addresses the comments received on the DEA. We also prepared a Safety and Design Assessment (SDA) which is available in the Commission's public file for this project.

PROJECT DESCRIPTION

The existing and operating Hayward Project consists of a dam, an impoundment, an intake channel, a powerhouse containing one generating unit having an installed capacity of 168 kW, and appurtenant facilities. The average annual generation would be 1,448,000 kilowatt-hours (kWh).

APPLICANT'S PLANS AND CAPABILITIES

I evaluated Northern States' record as a licensee for these areas: (1) conservation efforts, and (2) compliance history and potential for complying with the subsequent license. I accept the staff's findings in each of these areas.

Here are the findings:

1. Section 10(a)(2)(C): Conservation Efforts

In response to our request for information describing its on-going and proposed programs designed to improve the consumption efficiency of electricity and to reduce the demand peaks, Northern States has submitted a comprehensive and detailed report which covers not only programs designed to improve the consumption efficiency and to reduce peak demands of metered customers but which also covers Northern States' effort to improve the efficiency of electricity generation and internal consumption.

I have reviewed the report and conclude that Northern States has made a good faith and a satisfactory effort to establish and maintain efficiency improvement and load management programs which comply with and support the objectives of the Electric Consumers Protection Act of 1986.

2. Compliance History and Potential for Complying with the Subsequent License

I have reviewed Northern States' compliance with the terms and conditions of the existing license. I find that Northern States' overall record of making timely filings and compliance with its license is satisfactory.

WATER QUALITY CERTIFICATION

The WDNR, by letter dated November 11, 1991, granted Section 401 water quality certification for the Hayward Project, pursuant to the Clean Water Act. The water quality certificate for the project would require Northern States to consult with the WDNR in developing the project design and secure all necessary approvals prior to beginning the proposed shoreline restoration project.

This condition requires measures that would help to maintain water quality in the Namekagon River. Article 406 includes this condition, and requires the licensee to implement, in consultation with WDNR and the National Park Service (NPS), the measures described in its "Remediation Plan to Stabilize and Restore the Namekagon River Channel and Shoreline Downstream from the Hayward Dam Spillway," filed with the Commission on September 8, 1992, including any subsequent modifications.

COASTAL ZONE MANAGEMENT PROGRAM

The Wisconsin Department of Administration's Coastal Management Program (WCMP) is responsible for reviewing hydroelectric projects for consistency. However, the Hayward Project is not located in the coastal zone boundary designated by the WCMP (letter from Gary T. Shultz, Wisconsin Coastal Management Program, Department of Administration, Madison, Wisconsin, August 19, 1992). Therefore, no coastal zone consistency certification is needed for the Hayward Project.

SECTION 18 FISHWAY PRESCRIPTIONS

Interior requested reservation of authority to prescribe the construction, operation, and maintenance of fishways for the Hayward Project pursuant to Section 18 of the FPA (letter from Jonathan P. Deason, Director, Office of Environmental Affairs, Department of the Interior, Washington, D.C., September 23, 1993).

Section 18 of the FPA provides the Secretary of the Interior the authority to prescribe fishways.5/ Although fish passage facilities may not be recommended by Interior at the time of project licensing, such as for the Hayward Project, the Commission should include a license article which reserves Interior's prescription authority.6/ We recognize that future fishway needs and management objectives can't always be predicted at the time of license issuance. Under these circumstances, and

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5/ Section 18 of the Federal Power Act provides: "The Commission shall require construction, maintenance, and operation by a licensee at its own expense ... such fishways as may be prescribed by the Secretary of Commerce or the Secretary of Interior as appropriate."

6/ Lynchburg Hydro Associates, 39 FERC ¶ 61,079 (1987).

upon receiving a specific request from Interior, the Commission should reserve Interior's authority to prescribe fishways.

SECTION 4(E)

Interior provided final conditions for the Hayward Project (letter from Jonathan P. Deason, Director, Office of Environmental Affairs, Department of the Interior, Washington, D.C., September 23, 1993). Interior's NPS purported to recommend nine conditions pursuant to Section 4(e) of the FPA and the Commission's Order No. 533 issued May 8, 1991.

In response to a letter from the Commission, dated December 15, 1993, Interior provided their basis for asserting authority to prescribe Section 4(e) conditions. Based on Section 10(c) of the Wild and Scenic Rivers Act, Interior maintains that it may utilize such general statutory authorities relating to areas of the National Park System for recreation and preservation purposes and for the conservation and management of natural resources, as deemed appropriate to carry out the purposes of the Wild and Scenic Rivers Act (letter from Jonathan P. Deason, Director, Office of Environmental Affairs, Department of the Interior, Washington, D.C., March 4, 1994).

Section 4(e) applies to reservations, and under Section 3(2) of the FPA reservations are defined in part as land or interests in lands "owned by the United States." Although the Namekagon River is within the National Wild and Scenic Rivers System, administered by the NPS, the Hayward Project does not occupy any federal lands. Nor are there federal easements in the Hayward Project area. Therefore, we don't believe that Interior has 4(e) authority with respect to the Hayward Project.

We considered the NPS's purported 4(e) conditions under Section 10(a) of the FPA, and we made recommendations consistent with eight of the nine conditions. We don't recommend that Northern States conduct additional biological surveys (see condition no. 8 below) because the project area's existing biological resources are adequately protected with our recommended project operation measures. The NPS's conditions/recommendations are discussed in the environmental analysis section of the FEA, section V.C.

In summary, the NPS's recommended conditions under Section 4(e) of the FPA include:

(1) Operate the project in an instantaneous run-of-river mode for the protection and enhancement of recreation, fish, and wildlife resources of the Saint Croix National Scenic Riverway;

(2) Stabilize the canoe portage trail to reduce existing erosion by planting native vegetation and using other erosion control techniques as needed, while designing the access to meet the needs of the disabled;

(3) Stabilize the unimproved road associated with the canoe portage by erecting a gate to restrict vehicular traffic and reestablishing the area with native vegetation;

(4) Coordinate the drawdown management plan with the WDNR and the NPS Saint Croix National Scenic Riverway office;

(5) Send a sample of each source of ash to be used in the "cindering" process to the WDNR for annual analysis and submit the results to the WDNR for review;

(6) Cooperate with the resource agencies in implementing a plan to control the spread of purple loosestrife (Lythrum salicaria) when deemed appropriate by the agencies;

(7) Closely coordinate with the NPS Saint Croix National Scenic Riverway office any plan to stock Lake Sturgeon in the Namekagon River;

(8) Conduct a survey of the flowage to identify dragonfly, turtles, and salamanders and the potential impacts of the existing mode of operation on each species. The survey should also include potential impacts from project operations on bald eagles and a list of plant and animal species found around the flowage; and

(9) Invite the WDNR, the NPS, the FWS, and local agencies responsible for recreational facility planning to meet every five years in order to review and address existing recreation and land management issues.

RECOMMENDATIONS OF FEDERAL AND STATE FISH AND WILDLIFE AGENCIES

Section 10(j) of the FPA requires the Commission to include license conditions, based on recommendations provided by the federal and state fish and wildlife agencies for the protection of, mitigation of adverse impacts to, and enhancement of fish and wildlife resources affected by the project. We have addressed the concerns of the federal and state fish and wildlife agencies and made recommendations, some of which are inconsistent with those of the agencies.

Section 10(j) of the FPA states that whenever the Commission believes any fish and wildlife agency recommendations are inconsistent with the purposes and requirements of the FPA or other applicable law, the Commission and the agencies shall attempt to resolve any such inconsistency, giving due weight to the recommendations, expertise, and statutory responsibilities of such agencies. Both the FWS and WDNR recommended license conditions pursuant to Section 10(j) of the FPA (*Table 8 of the FEA lists these recommended conditions*).

We determine that some of the federal and state fish and wildlife agencies' recommendations conflicted with the comprehensive planning and public interest standards of Sections 4(e) and 10(a) of the FPA. Specifically, we do not recommend requiring Northern States to implement the following three measures regarding Northern States' operational compliance plan: (1) installing additional continuously recording headpond and tailwater devices; (2) installing U.S. Geological Survey-type gaging stations, if needed in the future; (3) developing a flow rating curve (including calibration every two years). We found that requiring these measures would cost Northern States nearly $20,000 annually, further reducing the project's negative economic benefits. We concluded that the excessive costs of implementing these recommendations would significantly impact the project's economics and that the costs are more than the value of their potential benefits.

Moreover, we determine that the following agency recommendations are inappropriate fish and wildlife recommendations: (1) the FWS's and WDNR's recommendations concerning a re-opener clause to recommend additional facilities or modifications to project structures and operation; (2) WDNR's recommendation regarding the consistency of project operation with federal and state comprehensive plans; (3) WDNR's recommendation pertaining to recreation access; (4) WDNR's recommendation to comply with applicable state laws and permits; and (5) the FWS's project retirement fund recommendation. Under Section 10(j) of the FPA, these recommendations do not provide measures for the protection, mitigation of damages to, and enhancement of fish and wildlife resources.

Recommendations that we considered outside of the scope of 10(j) were considered under Section 10(a) of the FPA. With two exceptions, these recommendations are addressed in the specific resource sections of the FEA (*see section V.C of the FEA*). We have not addressed WDNR's recommendations which require compliance with Wisconsin State statutes and codes. The applicability of state law requirements to licensed projects is beyond the scope of this License order.

We also have not addressed the FWS's project retirement fund recommendation. The FWS recommended, under Section 10(j) of the

FPA, that the licensee establish a retirement fund for the Hayward Project. Specifically, the FWS recommends that within 1 year, and in consultation with the resource agencies, the licensee should estimate the costs of: (a) permanent non-power operation; (b) partial project removal; or (c) complete project removal at the Hayward Project. They further recommend that the licensee submit to the Commission, for approval, the cost estimates and a schedule for making payments to a trust fund. Within 5 years of license issuance the licensee should begin payments to the trust fund according to the approved schedule, and the State of Wisconsin should be the beneficiary.

The FWS's retirement fund recommendation is not a fish and wildlife recommendation pursuant to Section 10(j) of the FPA, in that it does not provide measures for the protection, mitigation of damages to, and enhancement of fish and wildlife resources. Furthermore, the statements made by the FWS in support of its recommendation provide no evidence that a trust fund is needed, and we conclude that it is an inappropriate recommendation. In our policy statement on Project Decommissioning at Relicensing, we stated that:

> The Commission will not generically impose decommissioning funding requirements on licensees. However, in certain situations, where supported by the record, the Commission may impose license conditions to assure that funds are available to do the job when the time for decommissioning arrives......Further, even in situations in which the Commission does not impose a funding requirement at the time a project is relicensed, the licensee will ultimately be responsible for meeting a reasonable level of decommissioning costs if and when the project is decommissioned.7/

The federal and state recommendations subject to Section 10(j) and 10(a), and whether they are adopted under the staff alternative, are detailed in Table 8 of the FEA. We attempted to resolve the inconsistencies between our recommended resource enhancement measures and those of the federal and state agencies during a September 15, 1994, telephone conference.

During the Section 10(j) telephone conference, three 10(j) issues were discussed, including specific provisions of the reservoir drawdown management plan, the seasonal barrier net, and the impoundment fluctuation limit. We reached agreement on the seasonal barrier net and the impoundment fluctuation limit. Discussions in Sections V.C.1.b., V.C.2.c., and V.C.3.d., and in

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7/ III FERC Stats. & Regs., Regs. Preambles, ¶ 31,011 at p. 31,223 (1995).

our responses to comments on the reflect the outcome of discussions during the Section 10(j) telephone conference.

COMPREHENSIVE PLANS

Section 10(a)(2) of the FPA requires the Commission to consider the extent to which a project is consistent with federal or state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by the project. Under Section 10(a)(2), federal and state agencies filed a total of 63 comprehensive plans that address various resources in Wisconsin. Of these, we identified 12 plans relevant to the project.8/ No conflicts were found.

COMPREHENSIVE DEVELOPMENT

Section 4(e) and 10(a)(1) of the FPA, 16 U.S.C § 797(E) and 803(a)(1) , require the Commission, in acting on applications for license, to give equal consideration to the power and development purposes and to purposes of energy conservation, the protection, mitigation of damage to, and enhancement of fish and wildlife, the protection of recreational opportunities, and the preservation of other aspects of environmental quality. Any license issued shall be such as in the Commission's judgment will

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8/ **Federal Plans:** St. Croix National Scenic Riverway final master plan, 1976, National Park Service; Land protection plan, 1984, St. Croix National Scenic Riverway, National Park Service; Land protection plan, 1984, Lower St. Croix National Scenic Riverway, National Park Service; Statement for management, St. Croix and Lower St. Croix National Scenic Riverways, 1986, National Park Service; Comprehensive master plan for the management of the upper Mississippi River system - Environmental report, 1986, National Park Service; North American waterfowl management plan, 1986, U.S. Fish and Wildlife Service and Canadian Wildlife Service; and Fisheries USA: the recreational fisheries policy of the U.S. Fish and Wildlife Service, Fish and Wildlife Service.

State Plans: St. Croix River Basin areawide water quality management plan, 1980, Wisconsin Department of Natural Resources; Statewide comprehensive outdoor recreation plan, 1991, Wisconsin Department of Natural Resources; Upper St. Croix management policy resolution, 1993, Upper St. Croix Management Commission; Wisconsin water quality assessment report to Congress, 1992, Wisconsin Department of Natural Resources; and An evaluation of the sedimentation process and management alternatives for the Trego flowage, Washburn County, Wisconsin, 1989, Wisconsin Department of Natural Resources.

be best adapted to a comprehensive plan for improving or developing a waterway or waterways for all beneficial public uses. The decision to license this project, and the terms and conditions included herein, reflect such consideration. For the reasons discussed below, we conclude that the Hayward Project does not conflict with any planned or authorized development and is best adapted to a comprehensive development of the waterway for beneficial public uses.

In determining whether a proposed project will be best adapted to a comprehensive plan for developing a waterway for beneficial public purposes, pursuant to Section 10(a)(1) of the FPA, 16 U.S.C § 803(a)(1), the Commission considers a number of public interest factors, including the projected economic benefits of project power. In making these determinations, we considered the project both with the applicant's enhancement proposals and with the Commission's enhancement proposals.

Under the Commission's new approach to evaluating the economics of a project, as recently articulated in Mead Corporation, Publishing Paper Division, 9/ a proposed project is economically beneficial so long as its projected cost is less than the current cost of alternative energy to any utility in the region that can be served by the project. To determine whether the project proposed is economically beneficial, we compared the cost of energy from the power in the East North Central region, with is 30.1 mills per kWh. Based on current economic conditions without future escalation of inflation, the proposed project, if licensed as Northern States proposes, would cost 63.1 mills per kWh. If licensed with the Commission's proposed enhancements, the cost would be 64.5 mills per kWh per kW-year. We estimate the cost of alternative capacity to be $109.33 per kW-year.

As we explained in Mead, supra, our economic analysis in perforce inexact, and project economic is, moreover, only one of the many public interest factors we consider in determining whether or not, and under what conditions, to issued a license. Based on our independent review and evaluation, we believe that the proposed project with the additional enhancements adopted will be best adapted to a comprehensive plan for developing the waterway, because it will provide needed energy while protecting the environment.

The project with the following adopted enhancement will protect of the environment:

- analyze annually the fly ash/cinders used to minimize leakage at the spillway;

9/ 72 FERC ¶ 61,027 (1995)

- operate the project in a run-of-river mode;
- maintain the impoundment at a target elevation of 1,187.4 feet, with an allowable fluctuation limit between 1,187.0 feet and 1,187.5 feet under normal flow conditions;
- develop and implement a plan to monitor the run-of-river mode of operation and minimum flow requirement;
- maintain the existing headwater and tailwater staff gages and renovate the existing headwater chart recorder, which would continuously monitor impoundment levels;
- develop a plan to ensure downstream flows during power outages;
- provide a continuous minimum flow of 8 cubic feet per second, or inflow, whichever is less, to the bypassed reach;
- implement a fish protection plan to include a barrier net designed to protect fish from turbine entrainment;
- finalize and implement Northern States' Remediation Plan to restore the stream habitat in the bypassed reach and improve the canoe portage;
- maintain the existing trashracks, which have 1.5-inch clear bar spacing, to minimize resident fish entrainment and impingement;
- maintain the project lands as fish and wildlife habitat with public access where permitted;
- develop and implement a plan to monitor purple loosestrife and cooperate with the WDNR to control purple loosestrife;
- develop and implement a drawdown management plan for the project impoundment, including appropriate ramping rates;
- preserve all suitable trees (e.g., all large white and red pines) on project lands as potential bald eagle nesting and perching trees;
- implement the provisions contained in the Wisconsin Statewide Programmatic Agreement to protect cultural resources; and
- monitor the adequacy of the recreation facilities over the license term.

Based on our review of the agency and public comments filed on this project, our review of staff's evaluation of the environmental and economic effects of the proposed project and its alternatives, and our analysis pursuant to section 10(a)(1), I find that the Hayward Project, with the adopted enhancement measures, will be best adapted to the comprehensive development of the Namekagon River.

LICENSE TERM

Commission policy establishes thirty-year terms for projects proposing no new construction or capacity, forty-year terms for projects proposing a moderate amount of new development, and fifty-year terms for projects proposing a substantial amount of new development. 10/ Northern States proposes no redevelopment of existing project facilities and no changes in project operation. Accordingly, under our policy the new license for the Hayward Project would be for a term of thirty years.

However, about thirty miles downstream from the Hayward Project is Northern States's Trego Project No. 2711. The original license for the Trego Project expired on March 31, 1993, and the original license for the Hayward Project expired on December 31, 1993. Northern States has filed subsequent license applications for both Projects. In order to facilitate the Commission's future coordinated treatment of these two projects under the comprehensive development standard of the FPA, I will give the Hayward Project an expiration date of December 31, 2025 the same expiration date as the Trego Project. 11/

SUMMARY OF FINDINGS

Background information, analysis of impacts, support for related license articles, and the basis for a finding of no significant impact on the environment are contained in the attached FEA. Issuance of this license is not a major federal action significantly affecting the quality of the human environment.

The project will be safe if constructed, operated, and maintained in accordance with the requirements of this license. Analysis of related issues is provided in the SDA prepared for the Hayward Project and available in the Commission's public files.

I conclude that the Hayward Project does not conflict with any planned or authorized development, and is best adapted to a plan for the comprehensive development of the Namekagon River for beneficial public uses.

10/ See Montana Power Company, 56 FPC 2008, 2011-13 (1976)

11/ 67 FERC at page 61966

The Director orders:

(A) This license is issued to the Northern States Power Company, effective the first day of the month in which this license is issued and to expire on December 31, 2025, to operate and maintain the Hayward Project. This license is subject to the terms and conditions of the FPA, which is incorporated by reference as part of this license, and to the regulations the Commission issues under the provisions of the FPA.

(B) The project consists of:

(1) All lands, to the extent of the licensee's interests in those lands, as shown on exhibit G, FERC Drawing Number 2717-1003

(2) Project works consisting of:

(a) a dam with an overall length of 424 feet and a maximum height of about 18 feet, which is comprised of (i) a right earth embankment section which extends approximately 200 feet from the right bank to the concrete intake channel for the powerhouse; (ii) a middle earth embankment section which extends approximately 80 feet from the concrete intake channel for the powerhouse to the concrete spillway section; (iii) a concrete overflow spillway section approximately 120 feet long founded on rock-filled timber cribbing and which contains 10 stop-log bays separated by concrete piers; and (iv) a left earth embankment section protected by a concrete retaining/training wall;

(b) an existing reservoir with a surface area of about 247 acres and a gross capacity of less than 2,000 acre-feet at a normal water surface elevation of 1,187.4 feet mean sea level;

(c) an existing concrete intake channel about 42 feet long and varying in width from 8 feet to 13 feet, located between the right and middle embankment sections;

(d) an existing concrete and brick powerhouse, about 18 feet wide by 24 feet long, equipped with one vertical turbine with a hydraulic capacity of 178 cubic feet per second at a head of 17 feet, directly connected to a single generator rated at 168 kilowatts; and

(e) appurtenant equipment and facilities.

The project works described above are more specifically shown and described by those portions of exhibit A and F shown below:

Exhibit A - The following sections of exhibit A filed December 23, 1991: Section 1.1, page 8, describing the generator; Section 2.0, page 8, describing the turbine; and the additional mechanical and electrical equipment described elsewhere on pages 8 through 14 of the exhibit A.

Exhibit F - The following exhibit F drawings filed December 23, 1991, with revisions filed on September 23, 1992:

Exhibit	FERC No.	Showing
F-1	2417-1001	Plan, elevation, and section views of principal project works
F-2	2417-1002	Plan view of powerhouse floor

(3) All of the structures, fixtures, equipment, or facilities used to operate or maintain the project, all portable property that may be employed in connection with the project, and all riparian or other rights that are necessary or appropriate in the operation or maintenance of the project.

(C) Exhibits A, F and G described above are approved and made part of the license.

(D) The following sections of the FPA are waived and excluded from the license for this minor project:

Section 4(b), except the second sentence thereof; 4(e) insofar as it relates to approval of plans by the Chief of Engineers and the Secretary of the Army and to public notice; 6, insofar as it relates to public notice and to the acceptance and expression in the license of terms and conditions of the FPA which are hereinafter waived; 10(c), insofar as it relates to depreciation reserves; 10(d); 10(f); 14, except insofar as the power of condemnation is reserved; 15; 16; 19; 20; and 22.

(E) This license is subject to the articles set forth in Form L-9, (October 1975), entitled "Terms and Conditions of License for Constructed Minor Project Affecting Navigable Waters of the United States," and the following additional articles:

Article 201. The licensee shall pay the United States an annual charge, effective the first day of the month in which this license is issued, for the purpose of reimbursing the United States for the cost of administration of Part I of the FPA, as determined by the Commission. The authorized installed capacity for that purpose is 224 horsepower.

Article 202. Within 45 days of the date of issuance of the license, the licensee shall file an original set and two duplicate sets of aperture cards of the approved exhibit drawings. The set of originals shall be reproduced on silver or gelatin 35mm microfilm. The duplicate sets shall be copies of the originals made on diazo-type microfilm. All microfilm shall be mounted on type D (3-1/4' X 7-3/8") aperture cards.

Prior to microfilming, the FERC Drawing Number (2417-001 through 2417-003) shall be shown in the margin below the title block of the approved drawing. After mounting, the FERC Drawing Number shall be typed on the upper right corner of each aperture card. Additionally, the Project Number, FERC Exhibit (e.g., F-1, G-1, etc.), Drawing Title, and date of this license shall be typed on the upper left corner of each aperture card.

The original and one duplicate set of aperture cards shall be filed with the Secretary of the Commission, ATTN: DPCA/ERB. The remaining duplicate set of aperture cards shall be filed with the Commission's Chicago Regional Office.

Article 203. The licensee shall clear and keep clear to an adequate width all lands along open conduits and shall dispose of all temporary structures, unused timber, brush, refuse, or other material unnecessary for the purposes of the project which result from maintenance, operation, or alteration of the project works. In addition, all trees along the periphery of project reservoirs which may die during operations of the project shall be removed. All clearing of lands and disposal of unnecessary material shall be done with due diligence to the satisfaction of the authorized representative of the Commission and in accordance with appropriate federal, state, and local statutes and regulations.

Article 301. Within 90 days of completion of construction of the facilities authorized by this license, the licensee shall file for approval, revised Exhibits F and G, to show those project facilities as-built.

Article 401. At least 180 days from the date of issuance of this license, the licensee shall file with the Commission, for approval, a plan to monitor the fly ash/cinders used during the "cindering" process for sealing the stop-logs after replacement.

The purpose of this plan is to ensure that the fly ash/cinders used during the "cindering" process do not introduce significant levels of contaminants to the Namekagon River. The plan shall include provisions for: (1) identifying the trace metals and other elements to be analyzed; (2) analyzing the fly ash/cinders prior to use each year; (3) submitting the results of the analysis to the Wisconsin Department of Natural Resources (WDNR); and (4) the preparation of any reasonable enhancement measures developed in consultation with the WDNR and the National

Park Service (NPS) to minimize, to the extent possible, the levels of trace metals and other elements introduced to the Namekagon River, and developing a schedule for implementing any, or all, of the enhancement measures identified in the plan.

The licensee shall prepare the plan after consultation with the WDNR and the NPS. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 402. The licensee shall operate the project in a run-of-river mode for the protection of water quality, aquatic habitat, and other aquatic resource values in the Namekagon River. The licensee shall at all times act to minimize the fluctuation of the impoundment surface elevation by maintaining a discharge from the project so that, at any point in time, flows, as measured immediately downstream from the project tailrace, approximate the sum of inflows to the project impoundment. Under normal operating conditions, the licensee shall maintain the elevation of the Hayward Project impoundment at a target elevation of 1,187.4 feet National Geodetic Vertical Datum, with a fluctuation around the target elevation such that the impoundment is maintained between 1,187.5 feet and 1,187.0 feet. The licensee shall not operate the Hayward Project between the low end and high end of this operating range on a daily basis for peaking purposes.

Run-of-river operation may be temporarily modified if required by operating emergencies beyond the control of the licensee, or for short periods upon mutual agreement between the licensee, the Wisconsin Department of Natural Resources, the U.S. Fish and Wildlife Service, and the National Park Service. If the flow is so modified, the licensee shall notify the Commission as soon as possible, but no later than 10 days after each such incident.

Article 403. At least 180 days from the date of issuance of this license, the licensee shall file with the Commission, for approval, a plan to monitor compliance with the run-of-river mode of operation and any flow requirements as required by Articles 402, 404, and 405.

The monitoring plan shall include provisions for maintaining the existing headwater and tailwater staff gages, modifying the existing headwater staff gage for public visibility, renovating the existing continuous recording headwater gage, and/or using other appropriate monitoring/control features, to determine instantaneous headpond and tailwater elevations, and flows over the dam, through the bypassed reach, and in the Namekagon River downstream of the project dam.

The plan shall include, but not be limited to, the proposed location, design, and calibration of the monitoring equipment, the method of flow data collection, and a provision for providing flow data to the Wisconsin Department of Natural Resources (WDNR), the U.S. Fish and Wildlife Service (FWS), the National Park Service (NPS), and the U.S. Geological Survey (USGS) within 30 days from the date of the agency's request for the data.

The monitoring plan shall also include a schedule for:

(1) implementation of the program;

(2) consultation with the appropriate Federal and state agencies concerning the data from the monitoring; and

(3) filing the data, agency comments, and licensee's response to agency comments with the Commission.

The licensee shall prepare the plan after consultation with the WDNR, the FWS, the NPS, and the USGS. The licensee shall include with the plan documentation of consultation, copies of comments or recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agency comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations prior to filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

<u>Article 404</u>. At least 180 days from the date of issuance of this license, the licensee shall file with the Commission, for approval, a plan to minimize extended periods without flow releases downstream from the project.

The purpose of this plan is to ensure that, during periods when the project is shutdown and the impoundment elevation is below the crest of the stop-logs, extended periods without flow releases below the project are minimized. The plan shall include provisions for (1) the preparation of any reasonable enhancement measures developed in consultation with the Wisconsin Department of Natural Resources (WDNR), the U.S. Fish and Wildlife Service (FWS), and the National Park Service (NPS) to minimize, to the extent possible, extended periods without flow releases downstream of the project; (2) monitoring downstream flow releases (as required by Article 403 of this license); and (3) developing a schedule for implementing any, or all, of the enhancement measures identified in the plan.

The licensee shall prepare the plan after consultation with the WDNR, the FWS, and the NPS. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission.

Article 405. The licensee shall release from the Hayward Dam into the bypassed reach of the Namekagon River a continuous minimum flow of 8 cubic feet per second, as measured in the project's bypassed reach, or inflow to the project impoundment, whichever is less, for the protection of fish and wildlife resources and water quality in the bypassed reach of the Namekagon River.

This flow may be temporarily modified if required by operating emergencies beyond the control of the licensee, or for short periods upon agreement between the licensee, the Wisconsin Department of Natural Resources (WDNR), the U.S. Fish and Wildlife Service (FWS), and the National Park Service (NPS). If the flow is so modified, the licensee shall notify the Commission as soon as possible, but no later than 10 days after each such incident.

Article 406. The licensee shall implement measures to enhance aquatic habitat in the bypassed reach of the Namekagon River and enhance the canoe portage at the Hayward Project dam, in accordance with the terms and provisions of the "Remediation Plan to Stabilize and Restore the Namekagon River Channel and Shoreline Downstream from the Hayward Dam Spillway," as developed in consultation with the Wisconsin Department of Natural Resources (WDNR), U. S. Fish and Wildlife Service (FWS), and the

National Park Service (NPS), and filed on September 8, 1992, including any subsequent modifications.

At least 180 days from the date of issuance of this license, the licensee shall file with the Commission, for approval, a finalized plan to enhance the aquatic habitat in the bypassed reach and enhance the canoe portage at the Hayward Project dam. The final plan shall include, at a minimum, detailed design drawings for any proposed environmental enhancement measures and a schedule for installing any, or all, of the enhancement measures.

The licensee shall prepare the aforementioned plan after consultation with the WDNR and NPS. The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission. The measures implemented shall be shown on the as-built drawings filed pursuant to Article 301 of this license.

Article 407. The licensee shall implement a fish protection plan to minimize entrainment of fish through the Hayward Project, in accordance with the terms and provisions of the cooperative arrangement between Northern States Power Company (licensee) and the Wisconsin Department of Natural Resources (WDNR), and as described in the licensee's September 27 and October 11, 1994, and WDNR's October 14, 1994, filings with the Commission.

At least 180 days from the date of issuance of this license, the licensee shall file with the Commission, for approval, a finalized plan to protect fish in Hayward Lake from entrainment through the project. The final plan shall include, at a minimum: (1) detailed design drawings of the proposed barrier net and support structure; (2) a description of the responsibilities of the licensee and WDNR regarding funding, annual installation and maintenance of the barrier net, and evaluation of the barrier net's effectiveness; and (3) a schedule for implementing the plan and protection measures.

The licensee shall make all reasonable efforts to consult with the WDNR regarding how the barrier net's effectiveness will be evaluated, including how the net's effectiveness will be evaluated independent of any other fish management strategy implemented by the WDNR (i.e., stocking larger-size walleye, reservoir drawdowns, etc.). The licensee shall include in the fish protection plan, or shall file with the Commission at such time as the effectiveness study plan is available, the description of how the barrier net will be evaluated.

The licensee shall prepare the fish protection plan after consultation with the WDNR, the U.S. Fish and Wildlife Service (FWS), and the National Park Service (NPS). The licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after the plan has been prepared and provided to the agencies, and specific descriptions of how the agencies' comments are accommodated by the plan. The licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the licensee does not adopt a recommendation, the filing shall include the licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission. The proposed barrier net and associated support structure shall be shown on the as-built drawings filed pursuant to Article 301 of this license.

The licensee shall obtain the results of the effectiveness study from the WDNR, once completed, and to file the results of the study, including the benefits to be derived from the use of the barrier net, with the Commission. If the results of the study indicate that the barrier net is effective in reducing walleye entrainment, the Commission may direct the licensee to purchase additional replacement nets as become necessary, and continue providing funds to the WDNR for the annual installation and maintenance of the barrier net.

Article 408. Authority is reserved to the Commission to require the licensee to construct, operate, and maintain, or to provide for the construction, operation, and maintenance of such fishways as may be prescribed by the Secretary of the Interior.

Article 409. Within 1 year of the date of this license, the Licensee shall file with the Commission for approval a plan to manage the 23 acres of Licensee-owned project lands for wildlife habitat. The plan shall include provisions for, but not be limited to, the following: (1) maintaining the 23 acres of project lands as wildlife habitat with public access where permitted (i.e., areas that do not present safety hazards or that are not environmentally sensitive); (2) routine consultation with the Wisconsin Department of Natural Resources (WDNR) wildlife managers regarding decisions affecting wildlife management on these lands; and, (3) consultation with the WDNR, the U.S. Fish and Wildlife Service (FWS), and the National Park Service (NPS) on additions to or withdrawals from the project boundary of lands having the potential for wildlife management. Further, the plan shall provide for the development of a wildlife management plan for any new lands added to the project boundary.

The Licensee shall prepare the plan after consultation with the WDNR, FWS, and NPS. The Licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies recommendations are accommodated by the plan. The Licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the Licensee does not adopt a recommendation, the filing shall include the Licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Upon Commission approval the Licensee shall implement the plan, including any changes required by the Commission.

Article 410. Within 6 months of the date of this license, the Licensee shall file with the Commission for approval a plan to monitor the distribution and abundance of purple loosestrife (*Lythrum salicaria*) on the Hayward Project lands and waters, at least annually. The plan shall include, but not be limited to, the following: (1) a description of the monitoring method; (2) a monitoring schedule; and (3) a schedule for providing the monitoring results to the Wisconsin Department of Natural Resources (WDNR), the U.S. Fish and Wildlife Service (FWS), and the Commission.

The Licensee shall prepare the plan after consultation with the WDNR and the FWS. The Licensee shall include with the plan documentation of consultation and copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' recommendations are accommodated by the plan. The Licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations prior to filing the plan with the Commission. If the Licensee does not adopt a recommendation, the filing shall include the Licensee's reasons based on project specific information.

The Commission reserves the right to require changes to the plan. Upon Commission approval, the Licensee shall implement the plan, including any changes required by the Commission.

If at any time during the period of the license the WDNR or the FWS deem it necessary, the Licensee shall cooperate with the agencies to control or eliminate purple loosestrife at the Hayward project.

Article 411. Within 6 months of the date of this license, the Licensee shall file with the Commission for approval a drawdown management plan for the control of nuisance aquatic weed growth on Hayward Lake. The Licensee shall develop this plan based on the drawdown management plan for Hayward Hydro flowage developed by the Wisconsin Department of Natural Resources (WDNR) in the WDNR letter to the Commission dated October 1, 1993, but modified to include: (1) provisions for implementing management-based drawdowns, where the need for and the depth, timing and duration of such drawdowns are determined cooperatively with the WDNR, the U.S. Fish and Wildlife Service (FWS), and the National Park Service (NPS), and are based on documented fish and wildlife needs at the project; (2) a non-emergency drawdown ramping rate provision stipulating that the licensee would not lower the pond level more than 6 inches per 24 hours, which would occur at a rate of about 1 inch every 4 hours; (3) a cooperative agreement between the Licensee and the WDNR to monitor sediments and sensitive biological resources during drawdowns; (4) a schedule for implementing any planned drawdowns; (5) a strategy to evaluate the effectiveness of the management-based drawdowns; (6) cost estimates for implementing any drawdowns; and (7) comments from the resource agencies on the plan. Further, in lieu of an interim experimental drawdown as proposed in the WDNR's plan, the Licensee's plan should contain provisions for an initial test drawdown for a period of 5.5 months. The results of the initial test drawdown would be used to make modifications on any subsequent managed drawdowns (i.e., the plan shall incorporate provisions for adaptive management).

The Licensee shall prepare the plan after consultation with the WDNR, FWS, and NPS. The Licensee shall include with the plan documentation of consultation and copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' recommendations are accommodated by the plan. The Licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations prior to filing the plan with the Commission. If the Licensee does not adopt a recommendation, the filing shall include the Licensee's reasons based on project specific information.

The Commission reserves the right to require changes to the plan. Upon Commission approval, the Licensee shall implement the plan, including any changes required by the Commission.

Article 412. The Licensee shall protect potential perch and nest trees on the 23 acres of project lands for the bald eagle (Haliaeetus leucocephalus), a federally listed threatened species in Wisconsin. To ensure the protection of bald eagle perch and nest trees, the Licensee shall prohibit the cutting of large trees (diameter breast height [DBH] between 15 and 18 inches or greater) to include, but not limited to, white pines and red pines that presently occur or may grow in the future within 200 feet of the reservoir and river shorelines. Trees less than 15 inches DBH that extend above the over-all tree canopy shall also be considered for preservation. If needed, the Licensee shall consult with the U.S. Fish and Wildlife Service (FWS) and the Wisconsin Department of Natural Resources (WDNR) to obtain clarification on which trees to preserve.

The Licensee may remove felled, and standing disease-damaged or dead trees, which may affect public safety or project-related operation. Prior to removal of standing disease-damaged or dead trees, the Licensee shall consult with the FWS and WDNR.

If, during the term of the license, bald eagles begin perching and/or nesting on project lands, the Licensee shall file a plan with the Commission for monitoring perching and/or nesting activities and providing protective measures. Bald eagle protective measures shall include, but not be limited to, the guidelines in the FWS report entitled "Bald Eagle Management Guidelines". The Licensee shall file its plan with the Commission for approval within 120 days of confirmed bald eagle perching and/or nesting activities. Confirmation of bald eagle perching and/or nesting shall be determined by the FWS and/or WDNR, either independently or after notification by the Licensee.

If a plan is required, the Licensee shall prepare the plan after consultation with the WDNR and the FWS. The Licensee shall include with the plan documentation of consultation, copies of comments and recommendations on the completed plan after it has been prepared and provided to the agencies, and specific descriptions of how the agencies' recommendations are accommodated by the plan. The Licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations before filing the plan with the Commission. If the Licensee does not adopt a recommendation, the filing shall include the Licensee's reasons, based on project-specific information.

The Commission reserves the right to require changes to the plan. Upon Commission approval, the Licensee shall implement the plan, including any changes required by the Commission.

Article 413. The Licensee shall implement the provisions of the "Programmatic Agreement Among The Federal Energy Regulatory Commission, The Advisory Council On Historic Preservation, The Wisconsin State Historic Preservation Officer, And The Michigan State Historic Preservation Officer For Managing Historic Properties That May Be Affected By New And Amended Licenses Issuing For The Continued Operation Of Existing Hydroelectric Projects In The State Of Wisconsin And Adjacent Portions Of The

State Of Michigan" that was executed on December 30, 1993. In the event that the Programmatic Agreement is terminated, the Licensee shall implement the provisions of its approved Cultural Resources Management Plan. The Commission reserves the authority to require changes to the Cultural Resources Management Plan at any time during the term of the license. If the Programmatic Agreement is terminated prior to Commission approval of the Cultural Resources Management Plan, the Licensee shall obtain Commission approval before engaging in any ground disturbing activities or taking any other action that may affect any historic properties within the Project's area of potential effect.

Article 414. The Licensee, after consultation with the Wisconsin Department of Natural Resources, the National Park Service, the U.S. Fish and Wildlife Service, and the city of Hayward's park and recreation department, shall monitor recreation use of the project area to determine whether existing recreation facilities are meeting recreation needs. Monitoring studies shall begin within 6 years of the issuance date of this license. Monitoring studies, at a minimum, shall include the collection of annual recreation use data.

Every 6 years during the term of the license, the Licensee shall file a report with the Commission on the monitoring results. The report shall include:

(1) annual recreation use figures;

(2) a discussion of the adequacy of the Licensee's recreation facilities at the project site to meet recreation demand;

(3) a description of the methodology used to collect all study data;

(4) if there is a need for additional facilities, a recreation plan proposed by the Licensee to accommodate recreation needs in the project area;

(5) documentation of agency consultation and agency comments of the report after it has been prepared and provided to the agencies; and

(6) specific descriptions of how the agencies' comments are accommodated by the report.

The Licensee shall allow a minimum of 30 days for the agencies to comment and to make recommendations prior to filing the report with the Commission.

Article 415. (a) In accordance with the provisions of this article, the licensee shall have the authority to grant permission for certain types of use and occupancy of project lands and waters and to convey certain interests in project lands and waters for certain types of use and occupancy, without prior Commission approval. The licensee may exercise the authority only if the proposed use and occupancy is consistent with the purposes of protecting and enhancing the scenic, recreational, and other environmental values of the project. For those purposes, the licensee shall also have continuing responsibility to supervise and control the use and occupancies for which it grants permission, and to monitor the use of, and ensure compliance with the covenants of the instrument of conveyance for, any interests that it has conveyed, under this article. If a permitted use and occupancy violates any condition of this article or any other condition imposed by the licensee for protection and enhancement of the project's scenic, recreational, or other environmental values, or if a covenant of a conveyance made under the authority of this article is violated, the licensee shall take any lawful action necessary to correct the violation. For a permitted use or occupancy, that action includes, if necessary, canceling the permission to use and occupy the project lands and waters and requiring the removal of any non-complying structures and facilities.

(b) The type of use and occupancy of project lands and water for which the licensee may grant permission without prior Commission approval are: (1) landscape plantings; (2) non-commercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10 watercraft at a time and where said facility is intended to serve single-family type dwellings; (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline; and (4) food plots and other wildlife enhancement. To the extent feasible and desirable to protect and enhance the project's scenic, recreational, and other environmental values, the licensee shall require multiple use and occupancy of facilities for access to project lands or waters. The licensee shall also ensure, to the satisfaction of the Commission's authorized representative, that the use and occupancies for which it grants permission are maintained in good repair and comply with applicable state and local health and safety requirements. Before granting permission for construction of bulkheads or retaining walls, the licensee shall: (1) inspect the site of the proposed construction, (2) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site, and (3) determine that the proposed construction is needed and would not change the basic contour of the reservoir shoreline. To implement this paragraph (b), the licensee may, among other things, establish a program for issuing permits for the specified types of use and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the licensee's costs of administering the permit program. The Commission reserves the right to require the licensee to file a description of its standards, guidelines, and procedures for implementing this paragraph (b) and to require modification of those standards, guidelines, or procedures.

(c) The licensee may convey easements or rights-of-way across, or leases of, project lands for: (1) replacement, expansion, realignment, or maintenance of bridges or roads where all necessary state and federal approvals have been obtained; (2) storm drains and water mains; (3) sewers that do not discharge into project waters; (4) minor access roads; (5) telephone, gas, and electric utility distribution lines; (6) non-project overhead electric transmission lines that do not require erection of support structures within the project boundary; (7) submarine, overhead, or underground major telephone distribution cables or major electric distribution lines (69-kilovolt or less); and (8) water intake or pumping facilities that do not extract more than one million gallons per day from a project reservoir. No later than January 31 of each year, the licensee shall file three copies of a report briefly describing for each conveyance made under this paragraph (c) during the prior calendar year, the type of interest conveyed, the location of the lands subject to the conveyance, and the nature of the use for which the interest was conveyed.

(d) The licensee may convey fee title to, easements or rights-of-way across, or leases of project lands for: (1) construction of new bridges or roads for which all necessary state and federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters, for which all necessary federal and state water quality certification or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary federal and state approvals have been obtained; (5) private or public marinas that can accommodate no more than 10 watercraft at a time and are located at least one-half mile (measured over project waters) from any other private or public marina; (6) recreational development consistent with an approved Exhibit R or approved report on recreational resources of an Exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least 75 feet, measured horizontally, from project waters at normal surface elevation; and (iii) no more than 50 total acres of project lands for each project development are conveyed under this clause (d)(7) in any calendar year. At least 60 days before conveying any interest in project lands under this paragraph (d), the licensee must submit a letter to the Director, Office of Hydropower Licensing, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked exhibit G or K map may be used), the nature of the proposed use, the identity of any federal or state agency official consulted, and any federal or state approvals required for the proposed use. Unless the Director, within 45 days from the filing date, requires the licensee to file an application for prior approval, the licensee may convey the intended interest at the end of that period.

(e) The following additional conditions apply to any intended conveyance under paragraph (c) or (d) of this article:

(1) Before conveying the interest, the licensee shall consult with federal and state fish and wildlife or recreation agencies, as appropriate, and the State Historic Preservation Officer.

(2) Before conveying the interest, the licensee shall determine that the proposed use of the lands to be conveyed is not inconsistent with any approved exhibit R or approved report on recreational resources of an exhibit E; or, if the project does not have an approved exhibit R or approved report on recreational resources, that the lands to be conveyed do not have recreational value.

(3) The instrument of conveyance must include the following covenants running with the land : (i) the use of the lands conveyed shall not endanger health, create a nuisance, or otherwise be incompatible with overall project recreational use; (ii) the grantee shall take all reasonable precautions to insure that the construction, operation, and maintenance of structures or facilities on the conveyed lands will occur in a manner that will protect the scenic, recreational, and environmental values of the project; and (iii) the grantee shall not unduly restrict public access to project waters.

(4) The Commission reserves the right to require the licensee to take reasonable remedial action to correct any violation of the terms and conditions of this article, for the protection and enhancement of the project's scenic, recreational, and other environmental values.

(f) The conveyance of an interest in project lands under this article does not in itself change the project boundaries. The project boundaries may be changed to exclude land conveyed under this article only upon approval of revised exhibit G or K drawings (project boundary maps) reflecting exclusion of that land. Lands conveyed under this article will be excluded from the project only upon a determination that the lands are not necessary for project purposes, such as operation and maintenance, flowage, recreation, public access, protection of environmental resources, and shoreline control, including shoreline aesthetic values. Absent extraordinary circumstances, proposals to exclude lands conveyed under this article from the project shall be consolidated for consideration when revised exhibit G or K drawings would be filed for approval for other purposes.

(g) The authority granted to the licensee under this article shall not apply to any part of the public lands and reservations of the United States included within the project boundary.

Article 502. If the Licensee's project was directly benefitted by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement during the term of the original license (including extensions of that term by annual licenses), and if those headwater benefits were not previously assessed and reimbursed to the owner of the headwater improvement, the Licensee shall reimburse the owner of the headwater improvement for those benefits, at such time as they are assessed, in the same manner as for benefits received during the term of this new license.

(F) The Licensee shall serve copies of any Commission filing required by this order on any entity specified in this order to be consulted on matters related to that filing. Proof of service on these entities must accompany the filing with the Commission.

(G) This order is final unless a request for rehearing is filed within 30 days of the date of issuance of this order, pursuant to rule 385.813. The filing of a request for rehearing does not operate as a stay of the effective date of this order or of any other date specified in this order, except as specifically ordered by the Commission. The Licensee's failure to file a request for rehearing shall constitute acceptance of this order.

Fred E. Springer
Director, Office of
Hydropower Licensing

Form L-9
(October, 1975)

FEDERAL ENERGY REGULATORY COMMISSION

TERMS AND CONDITIONS OF LICENSE FOR CONSTRUCTED
MINOR PROJECT AFFECTING NAVIGABLE
WATERS OF THE UNITED STATES

Article 1. The entire project, as described in this order of the Commission, shall be subject to all of the provisions, terms, and conditions of the license.

Article 2. No substantial change shall be made in the maps, plans, specifications, and statements described and designated as exhibits and approved by the Commission in its order as a part of the license until such change shall have been approved by the Commission: Provided, however, That if the Licensee or the Commission deems it necessary or desirable that said approved exhibits, or any of them, be changed, there shall be submitted to the Commission for approval a revised, or additional exhibit or exhibits covering the proposed changes which, upon approval by the Commission, shall become a part of the license and shall supersede, in whole or in part, such exhibit or exhibits theretofore made a part of the license as may be specified by the Commission.

Article 3. The project area and project works shall be in substantial conformity with the approved exhibits referred to in Article 2 herein or as changed in accordance with the provisions of said article. Except when emergency shall require for the protection of navigation, life, health, or property, there shall not be made without prior approval of the Commission any substantial alteration or addition not in conformity with the approved plans to any dam or other project works under the license or any substantial use of project lands and waters not authorized herein; and any emergency alteration, addition, or use so made shall thereafter be subject to such modification and change as the Commission may direct. Minor changes in project works, or in uses of project lands and waters, or divergence from such approved exhibits may be made if such changes will not result in a decrease in efficiency, in a material increase in cost, in an adverse environmental impact, or in impairment of the general scheme of development; but any of such minor changes made without the prior approval of the Commission, which in its judgment have produced or will produce any of such results, shall be subject to such alteration as the Commission may direct.

Article 4. The project, including its operation and maintenance and any work incidental to additions or alterations authorized by the Commission, whether or not conducted upon lands of the United States, shall be subject to the inspection and supervision of the Regional Engineer, Federal Energy Regulatory Commission, in the region wherein the project is located, or of such other officer or agent as the Commission may designate, who shall be the authorized representative of the Commission for such purposes. The Licensee shall cooperate fully with said representative and shall furnish him such information as he may require concerning the operation and maintenance of the project, and any such alterations thereto, and shall notify him of the date upon which work with respect to any alteration will begin, as far in advance thereof as said representative may reasonably specify, and shall notify him promptly in writing of any suspension of work for a period of more than one week, and of its resumption and completion. The Licensee shall submit to said representative a detailed program of inspection by the Licensee that will provide for an adequate and qualified inspection force for construction of any such alterations to the project. Construction of said alterations or any feature thereof shall not be initiated until the program of inspection for the alterations or any feature thereof has been approved by said representative. The Licensee shall allow said representative and other officers or employees of the United States, showing proper credentials, free and unrestricted access to, through, and across the project lands and project works in the performance of their official duties. The Licensee shall comply with such rules and regulations of general or special applicability as the Commission may prescribe from time to time for the protection of life, health, or property.

Article 5. The Licensee, within five years from the date of issuance of the license, shall acquire title in fee or the right to use in perpetuity all lands, other than lands of the United States, necessary or appropriate for the construction maintenance, and operation of the project. The Licensee or its successors and assigns shall, during the period of the license, retain the possession of all project property covered by the license as issued or as later amended, including the project area, the project works, and all franchises, easements, water rights, and rights or occupancy and use; and none of such properties shall be voluntarily sold, leased, transferred, abandoned, or otherwise disposed of without the prior written approval of the Commission, except that the Licensee may lease or otherwise dispose of interests in project lands or property without specific written approval of the Commission pursuant to the then current regulations of the Commission. The provisions of this article are not intended to prevent the abandonment or the retirement from service of structures, equipment, or other project works in connection with replacements thereof when they become obsolete, inadequate, or inefficient for further service due to wear and tear; and mortgage or trust deeds or judicial sales made thereunder, or tax sales, shall not be deemed voluntary transfers within the meaning of this article.

Article 6. The Licensee shall install and thereafter maintain gages and stream-gaging stations for the purpose of determining the stage and flow of the stream or streams on which the project is located, the amount of water held in and withdrawn from storage, and the effective head on the turbines; shall provide for the required reading of such gages and for the adequate rating of such stations; and shall install and maintain standard meters adequate for the determination of the amount of electric energy generated by the project works. The number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, shall at all times be satisfactory to the Commission or its authorized representative. The Commission reserves the right, after notice and opportunity for hearing, to require such alterations in the number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, as are necessary to secure adequate determinations. The installation of gages, the rating of said stream or streams, and the determination of the flow thereof, shall be under the supervision of, or in cooperation with, the District Engineer of the United States Geological Survey having charge of stream-gaging operations in the region of the project, and the Licensee shall advance to the United States Geological Survey the amount of funds estimated to be necessary for such supervision, or cooperation for such periods as may be mutually agreed upon. The Licensee shall keep accurate and sufficient records of the foregoing determinations to the satisfaction of the Commission, and shall make return of such records annually at such time and in such form as the Commission may prescribe.

Article 7. The Licensee shall, after notice and opportunity for hearing, install additional capacity or make other changes in the project as directed by the Commission, to the extent that it is economically sound and in the public interest to do so.

Article 8. The Licensee shall, after notice and opportunity for hearing, coordinate the operation of the project, electrically and hydraulically, with such other projects or power systems and in such manner as the Commission may direct in the interest of power and other beneficial public uses of water resources, and on such conditions concerning the equitable sharing of benefits by the Licensee as the Commission may order.

Article 9. The United States specifically retains and safeguards the right to use water in such amount, to be determined by the Secretary of the Army, as may be necessary for the purposes of navigation on the navigable waterway affected; and the operations of the Licensee, so far as they affect the use, storage and discharge from storage of waters affected by the license, shall at all times be controlled by such reasonable rules and regulations as the Secretary of the Army may prescribe in the interest of navigation, and as the Commission may prescribe for the protection of life, health, and property, and in the interest of the fullest practicable conservation and utilization of such waters for power purposes and for other beneficial public uses, including recreational purposes, and the Licensee shall release water from the project reservoir at such rate in cubic feet per second, or such volume in acre-feet per specified period of time, as the Secretary of the Army may prescribe in the interest of navigation, or as the Commission may prescribe for the other purposes hereinbefore mentioned.

Article 10. On the application of any person, association, corporation, Federal agency, State or municipality, the Licensee shall permit such reasonable use of its reservoir or other project properties, including works, lands and water rights, or parts thereof, as may be ordered by the Commission, after notice and opportunity for hearing, in the interests of comprehensive development of the waterway or waterways involved and the conservation and utilization of the water resources of the region for water supply or for the purposes of steam-electric, irrigation, industrial, municipal or similar uses. The Licensee shall receive reasonable compensation for use of its reservoir or other project properties or parts thereof for such purposes, to include at least full reimbursement for any damages or expenses which the joint use causes the Licensee to incur. Any such compensation shall be fixed by the Commission either by approval of an agreement between the Licensee and the party or parties benefiting or after notice and opportunity for hearing. Applications shall contain information in sufficient detail to afford a full understanding of the proposed use, including satisfactory evidence that the applicant possesses necessary water rights pursuant to applicable State law, or a showing of cause why such evidence cannot concurrently be submitted, and a statement as to the relationship of the proposed use to any State or municipal plans or orders which may have been adopted with respect to the use of such waters.

Article 11. The Licensee shall, for the conservation and development of fish and wildlife resources, construct, maintain, and operate, or arrange for the construction, maintenance, and operation of such reasonable facilities, and comply with such reasonable modifications of the project structures and operation, as may be ordered by the Commission upon its own motion or upon the recommendation of the Secretary of the Interior or the fish and wildlife agency or agencies of any State in which the project or a part thereof is located, after notice and opportunity for hearing.

Article 12. Whenever the United States shall desire, in connection with the project, to construct fish and wildlife facilities or to improve the existing fish and wildlife facilities at its own expense, the Licensee shall permit the United States or its designated agency to use, free of cost, such of the Licensee's lands and interests in lands, reservoirs, waterways and project works as may be reasonably required to complete such facilities or such improvements thereof. In addition, after notice and opportunity for hearing, the Licensee shall modify the project operation as may be reasonably prescribed by the Commission in order to permit the maintenance and operation of the fish and wildlife facilities constructed or improved by the United States under the provisions of this article. This article shall not be interpreted to place any obligation on the United States to construct or improve fish and wildlife facilities or to relieve the Licensee of any obligation under this license.

Article 13. So far as is consistent with proper operation of the project, the Licensee shall allow the public free access, to a reasonable extent, to project waters and adjacent project lands owned by the Licensee for the purpose of full public utilization of such lands and waters for navigation and for outdoor recreational purposes, including fishing and hunting: Provided, That the Licensee may reserve from public access such portions of the project waters, adjacent lands, and project facilities as may be necessary for the protection of life, health, and property.

Article 14. In the construction, maintenance, or operation of the project, the Licensee shall be responsible for, and shall take reasonable measures to prevent, soil erosion on lands adjacent to streams or other waters, stream sedimentation, and any form of water or air pollution. The Commission, upon the request or upon its own motion, may order the Licensee to take such measures as the Commission finds to be necessary for these purposes, after notice and opportunity for hearing.

Article 15. The Licensee shall clear and keep clear to an adequate width lands along open conduits and shall dispose of all temporary structures, unused timber, brush, refuse, or other material unnecessary for the purposes of the project which results from the clearing of lands or from the maintenance or alteration of the project works. In addition, all trees along the periphery of project reservoirs which may die during operations of the project shall be removed. All clearing of the lands and disposal of the unnecessary material shall be done with due diligence and to the satisfaction of the authorized representative of the Commission and in accordance with appropriate Federal, State, and local statutes and regulations.

Article 16. Material may be dredged or excavated from, or placed as fill in, project lands and/or waters only in the prosecution of work specifically authorized under the license; in the maintenance of the project; or after obtaining Commission approval, as appropriate. Any such material shall be removed and/or deposited in such manner as to reasonably preserve the environmental values of the project and so as not to interfere with traffic on land or water. Dredging and filling in a navigable water of the United States shall also be done to the satisfaction of the District Engineer, Department of the Army, in charge of the locality.

Article 17. If the Licensee shall cause or suffer essential project property to be removed or destroyed or to become unfit for use, without adequate replacement, or shall abandon or discontinue good faith operation of the project or refuse or neglect to comply with the terms of the license and the lawful orders of the Commission mailed to the record address of the Licensee or its agent, the Commission will deem it to be the intent of the Licensee to surrender the license. The Commission, after notice and opportunity for hearing, may require the Licensee to remove any or all structures, equipment and power lines within the project boundary and to take any such other action necessary to restore the project waters, lands, and facilities remaining within the project boundary to a condition satisfactory to the United States agency having jurisdiction over its lands or the Commission's authorized representative, as appropriate, or to provide for the continued operation and maintenance of nonpower facilities and fulfill such other obligations under the license as the Commission may prescribe. In addition, the Commission in its discretion, after notice and opportunity for hearing, may also agree to the surrender of the license when the Commission, for the reasons recited herein, deems it to be the intent of the Licensee to surrender the license.

Article 18. The right of the Licensee and of its successors and assigns to use or occupy waters over which the United States has jurisdiction, or lands of the United States under the license, for the purpose of maintaining the project works or otherwise, shall absolutely cease at the end of the license period, unless the Licensee has obtained a new license pursuant to the then existing laws and regulations, or an annual license under the terms and conditions of this license.

Article 19. The terms and conditions expressly set forth in the license shall not be construed as impairing any terms and conditions of the Federal Power Act which are not expressly set forth herein.

FINAL ENVIRONMENTAL ASSESSMENT

FOR HYDROPOWER LICENSE

Hayward Hydroelectric Project

FERC Project No. 2417

Wisconsin

Federal Energy Regulatory Commission
Office of Hydropower Licensing
Division of Project Review
825 N. Capitol Street, NE
Washington, D.C. 20426

August 29, 1995

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SUMMARY

On December 23, 1991, Northern States Power Company (Northern States), filed a subsequent license application for the existing Hayward Hydroelectric Project, FERC No. 2417. On September 3, 1992, and January 14, 1994, Northern States supplemented its application. Located on the Namekagon River in the City of Hayward, Sawyer County, Wisconsin, the Hayward Project would have an installed capacity of 168 kilowatt-hours and would generate about 1,448,000 kilowatt-hours of electric energy per year. The entire mainstem of both the Saint Croix River and the Namekagon River are included in Wild and Scenic Rivers System under the National Wild and Scenic Rivers Act, Public Law 90-542.

On November 11, 1991, the Wisconsin Department of Natural Resources (WDNR) issued the water quality certificate for the Hayward Project, as required by Section 401 of the Clean Water Act. The water quality certificate requires Northern States to consult with the WDNR in developing the project design and secure all necessary approvals prior to beginning Northern States' proposed shoreline restoration project.

The Federal Energy Regulatory Commission (Commission) issued a draft environmental assessment (EA) for the Hayward Project on June 16, 1994. In the draft EA, our preferred licensing alternative was licensing the Hayward Project with staff recommended protection and enhancement measures. Based on economic data filed by Northern States in letters dated September 23 and October 17, 1994, we reexamined the economic and environmental effects of our licensing alternative in comparison to a project retirement alternative. We considered project retirement to consist of the removal of generation equipment from the powerhouse and the electrical tie to the local power grid.

Based on the present economic data, our studies show that the staff's licensing alternative would result in negative net economic benefits of about $48,000 annually. Under the project retirement alternative, the negative net annual benefits, including our recommended conditions, are $13,600 more than the staff's licensing alternative.

Based on our consideration of all developmental and nondevelopmental resource interests related to the relicensing the Hayward Project, the Commission's staff recommend 16 environmental measures. These measures would protect and enhance fish and terrestrial resources, water quality, cultural resources, and recreational resources in the project area and are discussed in sections V.C. and summarized in section VII of the final EA.

Our independent review and evaluation of the project included the project as proposed by Northern States, the project with staff and agency recommendations, the project retirement alternative, and the no-action alternative. Based on our analysis, we have selected issuing a subsequent license for the Hayward Project, with our recommended protection and enhancement measures, as the preferred option. We recommend this option because: (1) continued project operation, with our recommended measures, would have minor environmental effects; (2) our recommended environmental measures would protect and enhance fish and wildlife resources, water quality, cultural resources, and recreational resources; (3) the economic costs of operating the project as conditioned in the staff's recommended licensing alternative are less than the costs of project retirement; and (4) the electricity generated from a renewable resource would reduce the use of fossil-fueled, steam-electric generating plants, thereby, conserving nonrenewable energy resources and reducing atmospheric pollution.

Section 10(j) of the Federal Power Act (FPA) requires the Commission to include license conditions for the protection, mitigation, and enhancement of fish and wildlife resources affected by the development, operation, and maintenance of the project. Generally, such conditions are based on recommendations from federal and state fish and wildlife agencies. In this final EA, we have addressed the concerns of the federal and state fish and wildlife agencies and under our staff's licensing alternative made recommendations consistent with most of those of the agencies.

On September 15, 1994, a telephone conference meeting with representatives from the Commission's staff, Northern States, WDNR, and U.S. Fish and Wildlife Service, was held in attempt to resolve inconsistencies between fish and wildlife recommendations and requirements under Section 10(j) of the FPA. We reached agreement on the impoundment fluctuation limit and the resource agencies' recommended seasonal barrier net.

We conclude in the final EA that our recommended project licensing alternative for the Hayward Project would not constitute a major federal action significantly affecting the quality of the human environment.

FINAL ENVIRONMENTAL ASSESSMENT
FEDERAL ENERGY REGULATORY COMMISSION
OFFICE OF HYDROPOWER LICENSING, DIVISION OF PROJECT REVIEW

Hayward Hydroelectric Project
FERC Project No. 2417--Wisconsin

August 29, 1995

INTRODUCTION

The Federal Energy Regulatory Commission (Commission) issued the Hayward Hydroelectric Project Draft Environmental Assessment (DEA) for comment on June 16, 1994. In response, we received two comment letters. Those commentors are listed section IV.C., Comments on the DEA. All timely-filed comment letters were reviewed by the staff. The sections of the Final Environmental Assessment (FEA) that have been modified as a result of comments received are identified in the staff responses to the right of the letters of comment, in Appendix A.

I. APPLICATION

On December 23, 1991, Northern States Power Company (Northern States), filed a subsequent license application for the existing Hayward Hydroelectric Project, FERC No. 2417. The project is located on the Namekagon River in the City of Hayward, Sawyer County, Wisconsin. On September 3, 1992, and January 14, 1994, Northern States supplemented its application.

II. PURPOSE AND NEED FOR ACTION

A. Purpose of Action

This FEA assesses the effects associated with operating the existing project, alternatives to the proposed project, and makes recommendations on whether to issue a subsequent license, and if so, recommends terms and conditions to become a part of any license issued. The Federal Power Act (FPA) provides the Commission with the exclusive authority to license nonfederal water power projects on navigable waterways and federal lands.

In deciding whether to issue any license, the Commission must determine whether the project is best adapted to a comprehensive plan for improving or developing a waterway. In addition to the power and developmental purposes for which licenses are issued, the Commission must give equal consideration to the purposes of energy conservation, the protection, mitigation of damage to, and enhancement of fish and wildlife (including related spawning grounds and habitat), the protection of recreational opportunities, and the preservation of other aspects of environmental quality.

In this FEA, we, the Commission staff, assess the environmental and economic effects of continuing to operate the project (1) as proposed by Northern States and (2) with our recommended enhancement measures. We also consider the effects of project retirement and the no-action alternative.

B. Need for Power

The Hayward Hydroelectric Project would generate about 1,448,000 kilowatt-hours (kWh) of electric energy per year. Northern States would use the energy within its utility system to serve its customers in portions of the states of Wisconsin, Michigan, Minnesota, North Dakota, and South Dakota.

The project's single generator, with nameplate rating of 168 kilowatts (kW), was rewound in 1959 and is presently capable of producing a maximum of 200 kW. The average annual electric energy production of the project is about 1,448,000 kWh.

The Hayward Project has already established a need for the project's output by generating low-cost nonpolluting, hydroelectric power from a renewable primary energy resource for about 86 years.

The Hayward Project is located in the Mid-continent Area Power Pool (MAPP) reliability council region. According to the April 1, 1993, MAPP Department of Energy (DOE) Code IE-411 Report, the average annual growth rate in summer peak demand for the 9-year period from 1993 to 2002 is forecasted to be 2.8 percent. The average annual growth rate for total energy requirements, for the same period, is projected to be 2.3 percent. Considering these forecasts, the region would need about 383,000 kW of additional capacity each year over the 1993-2002 period in order to meet the summer peak demand and maintain adequate reserve margins.

The IE-411 Report also states that for the summer and winter seasons of the forecast period, 16 of 22 MAPP participating utilities would face one or more seasons in which the capacity levels would fall below the MAPP required fifteen percent reserve capacity.

The above figures show that the MAPP region can easily accommodate and use the 168 kW of capacity and the 1,448,000 kWh of annual energy.

III. PROPOSED ACTION AND ALTERNATIVES

A. APPLICANT'S PROPOSAL

1. Project Facilities The original dam on the Hayward site was built of logs in 1883 and powered a large sawmill located adjacent to the dam. The dam was subsequently destroyed by a flood in 1907 and a new dam of earth with a timber-crib spillway was constructed the same year. The spillway portion was surfaced with reinforced concrete in 1918, resurfaced in 1927, and again in 1980. The present powerhouse dates from between 1927 and 1933, with the exterior of its superstructure being altered since its original construction.

The project facilities (see figure 1) would consist of:

a. a dam with an overall length of 424 feet and a maximum height of about 18 feet, which is comprised of:

(i) a right earth embankment section which extends about 200 feet from the right bank to the concrete intake channel for the powerhouse,

(ii) a middle earth embankment section which extends about 80 feet from the concrete intake channel for the powerhouse to the concrete spillway section,

(iii) a concrete overflow spillway section about 120 feet long founded on rock-filled timber cribbing and which contains 10 stop-log bays separated by concrete piers, and

(iv) a left earth embankment section protected by a concrete retaining/training wall;

b. a reservoir with a surface area of about 247 acres and a gross capacity of less than 2,000 acre-feet (AF) at a normal water surface elevation of 1,187.4 feet mean sea level;

c. a concrete intake channel about 42 feet long and varying in width from 8 feet to 13 feet, located between the right and middle embankment sections;

d. a concrete and brick powerhouse, about 18 feet wide by 24 feet long, equipped with one vertical turbine with a hydraulic capacity of 178 cubic feet per second (cfs) at a head of 17 feet, directly connected to a single generator rated at 168 kW; and

e. appurtenant equipment and facilities.

The project power feeds directly into Northern States' local distribution system; hence, there is no transmission line

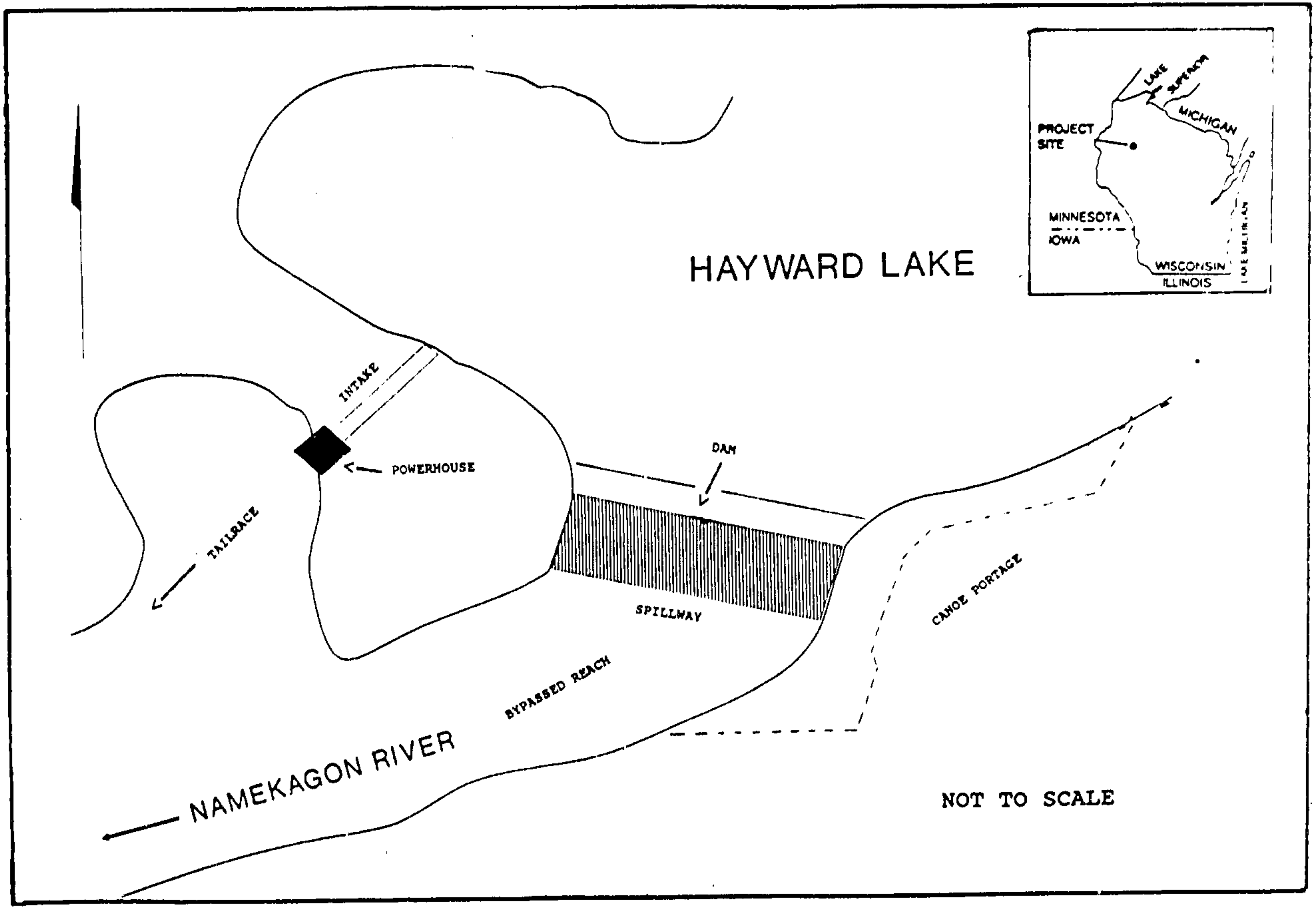

Figure 1. Location of the project features for the existing Hayward Hydroelectric Project, FERC No. 2417, Wisconsin (Source: Northern States Power Company, 1992, modified by staff).

included among the project facilities. A steel bulkhead gate located in the intake channel upstream of the powerhouse serves as an upstream cutoff for dewatering the powerhouse and replaces an earlier Taintor gate. Northern States has proposed no new capacity or construction, and the project would continue to operate in a run-of-river mode.

2. Proposed Environmental Measures

a. Construction None.

b. Operation Northern States proposes the following eight measures to enhance environmental resources: (1) continue operating the project in a run-of-river mode; (2) maintain the impoundment at a target elevation of 1,187.4 feet[1], with an allowable fluctuation limit between 1,187.0 feet and 1,187.5 feet under normal flow conditions; (3) maintain the existing headwater and tailwater staff gages and renovate the existing headwater chart recorder, which would continuously monitor impoundment levels; (4) provide a continuous minimum flow of 8 cfs, or inflow, whichever is less, to the bypassed reach; (5) maintain the existing trashracks, which have 1.5-inch clear bar spacing, to minimize resident fish entrainment and impingement; (6) develop and implement a drawdown management plan for the project impoundment, including appropriate ramping rates; (7) implement a remediation plan to improve the stream habitat below the project's spillway channel and improve the existing canoe portage; and (8) undertake bald eagle and osprey management practices on company-owned lands.

3. Mandatory Requirements

a. Federal Land Management Conditions The Department of the Interior (Interior) provided final conditions for the Hayward Project (letter from Jonathan P. Deason, Director, Office of Environmental Affairs, Department of the Interior, Washington, D.C., September 23, 1993). Interior's National Park Service (NPS) purported to recommend nine conditions pursuant to Section 4(e) of the FPA and the Commission's Order No. 533 issued May 8, 1991. Interior's Fish and Wildlife Service (FWS) also recommended 11 separate license conditions under Section 10(j) of the FPA, which are listed in section VIII of this FEA (Consistency with Fish and Wildlife Recommendations).

In response to a letter from the Commission, dated December 15, 1993, Interior provided their basis for asserting authority to prescribe Section 4(e) conditions. Based on Section 10(c) of

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[1] The surface elevations shown are as measured from National Geodetic Vertical Datum (NGVD), the equivalent of mean sea level.

the Wild and Scenic Rivers Act, Interior maintains that it may utilize such general statutory authorities relating to areas of the National Park System for recreation and preservation purposes and for the conservation and management of natural resources, as deemed appropriate to carry out the purposes of the Wild and Scenic Rivers Act (letter from Jonathan P. Deason, Director, Office of Environmental Affairs, Department of the Interior, Washington, D.C., March 4, 1994).

Section 4(e) applies to reservations, and under Section 3(2) of the FPA reservations are defined in part as land or interests in lands "owned by the United States." Although the Namekagon River is within the National Wild and Scenic Rivers System, administered by the NPS, the Hayward Project does not occupy any federal lands. Nor are there federal easements in the Hayward Project area. Therefore, we don't believe that Interior has 4(e) authority with respect to the Hayward Project.

In this FEA, we considered the NPS's purported 4(e) conditions under Section 10(a) of the FPA, and we made recommendations consistent with eight of the nine conditions. We don't recommend that Northern States conduct additional biological surveys (see condition no. 8 below) because the project area's existing biological resources are adequately protected with our recommended project operation measures. The NPS's conditions/recommendations are discussed in the environmental analysis section of this FEA, section V.C.

In summary, the NPS's recommended conditions under Section 4(e) of the FPA include:

(1) Operate the project in an instantaneous run-of-river mode for the protection and enhancement of recreation, fish, and wildlife resources of the Saint Croix National Scenic Riverway;

(2) Stabilize the canoe portage trail to reduce existing erosion by planting native vegetation and using other erosion control techniques as needed, while designing the access to meet the needs of the disabled;

(3) Stabilize the unimproved road associated with the canoe portage by erecting a gate to restrict vehicular traffic and reestablishing the area with native vegetation;

(4) Coordinate the drawdown management plan with the Wisconsin Department of Natural Resources (WDNR) and the NPS Saint Croix National Scenic Riverway office;

(5) Send a sample of each source of ash to be used in the "cindering" process to the WDNR for annual

analysis and submit the results to the WDNR for review;

(6) Cooperate with the resource agencies in implementing a plan to control the spread of purple loosestrife (<u>Lythrum salicaria</u>) when deemed appropriate by the agencies;

(7) Closely coordinate with the NPS Saint Croix National Scenic Riverway office any plan to stock Lake Sturgeon in the Namekagon River;

(8) Conduct a survey of the flowage to identify dragonfly, turtles, and salamanders and the potential impacts of the existing mode of operation on each species. The survey should also include potential impacts from project operations on bald eagles and a list of plant and animal species found around the flowage; and

(9) Invite the WDNR, the NPS, the FWS, and local agencies responsible for recreational facility planning to meet every five years in order to review and address existing recreation and land management issues.

<u>b. Section 18 Fishway Prescription</u> Interior requested reservation of authority to prescribe the construction, operation, and maintenance of fishways for the Hayward Project pursuant to Section 18 of the FPA (letter from Jonathan P. Deason, Director, Office of Environmental Affairs, Department of the Interior, Washington, D.C., September 23, 1993).

Section 18 of the FPA provides the Secretary of the Interior the authority to prescribe fishways.[2] Although fish passage facilities may not be recommended by Interior at the time of project licensing, such as for the Hayward Project, the Commission should include a license article which reserves Interior's prescription authority.[3] We recognize that future fishway needs and management objectives can't always be predicted at the time of license issuance. Under these circumstances, and upon receiving a specific request from Interior, the Commission should reserve Interior's authority to prescribe fishways.

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[2] Section 18 of the Federal Power Act provides: "The Commission shall require construction, maintenance, and operation by a licensee at its own expense ... such fishways as may be prescribed by the Secretary of Commerce or the Secretary of Interior as appropriate."

[3] <u>Lynchburg Hydro Associates</u>, 39 FERC ¶ 61,079 (1987).

c. Water Quality Certificate Northern States requested Section 401 water quality certification (401 WQC), required by the Clean Water Act, on August 30, 1990. The WDNR issued the 401 WQC on November 11, 1991. The 401 WQC would require Northern States to consult with the WDNR in developing the project design and secure all necessary approvals prior to beginning the proposed shoreline restoration project (*see section V.C.2.b*).

d. Coastal Zone Management Program The Wisconsin Department of Administration's Coastal Management Program (WCMP) is responsible for reviewing hydroelectric projects for consistency. However, the Hayward Project is not located in the coastal zone boundary designated by the WCMP (letter from Gary T. Shultz, Wisconsin Coastal Management Program, Department of Administration, Madison, Wisconsin, August 19, 1992). Therefore, no coastal zone consistency certification is needed for the Hayward Project.

B. STAFF ALTERNATIVE

Under our alternative, the project would continue to operate as proposed and include the following protection and enhancement measures, in addition to the measures proposed by Northern States:

1. To protect water resources, we recommend that Northern States (a) analyze the fly ash/cinders used to minimize leakage at the spillway, (b) develop and implement a plan to monitor the run-of-river mode of operation and minimum flow requirement, and (c) develop a plan to ensure downstream flows during power outages.

2. To protect fishery resources from turbine entrainment, we recommend that Northern States implement a fish protection plan to include a barrier net.

3. To protect terrestrial resources, we recommend that Northern States (a) maintain the project lands as fish and wildlife habitat with public access where permitted, (b) develop and implement a plan to monitor purple loosestrife and cooperate with the WDNR to control purple loosestrife, and (c) preserve all suitable trees (e.g., all large white and red pines) on project lands as potential bald eagle nesting and perching trees.

4. To protect cultural resources at the Hayward Project, we recommend that Northern States implement the provisions of the Wisconsin Statewide Programmatic Agreement, executed on December 30, 1993, among the Commission, the Wisconsin State Historic Preservation Officer, the Michigan State Historic Preservation Officer, and the Advisory Council on Historic Preservation.

5. To improve recreation resources, we recommend that Northern States (a) implement their proposed canoe portage improvements, and (b) monitor the adequacy of the recreation facilities over the license term.

C. PROJECT RETIREMENT ALTERNATIVE

While we limited our analysis of project retirement in the DEA and while no participant has suggested that a project retirement alternative would be appropriate in this case, we analyzed project retirement at the Hayward Project in this FEA. We considered it prudent to analyze project retirement upon further review of economic data filed by Northern States in letters dated September 23 and October 17, 1994.

The project retirement alternative involves denial of the relicense application and surrender of the existing license with appropriate conditions. We consider project retirement to consist of the removal of generation equipment from the powerhouse and the electrical tie to the local power grid. Under this alternative the dam would remain in place and the Commission would seek an application for surrender of the project's original license. Northern States would continue to maintain the project dam with a non-power license until a new owner assumed the responsibilities of the project facilities. This scenario is approximate and subject to change. The environmental effects of project retirement are addressed in the Environmental Analysis section of this FEA, section V.D., and the development effects are addressed in the Developmental Analysis section of this FEA, section VI.B.

D. ALTERNATIVE OF NO ACTION

Under the no-action alternative, the project would continue to operate under the terms and conditions of the existing license. No changes to the existing physical, biological, or cultural components would occur in the project area. Also, we wouldn't require Northern States to implement any new environmental protection or enhancement measures. We use this alternative to establish the baseline environmental conditions for comparison with other alternatives. The no-action alternative is addressed in the environmental analysis section of this FEA, section V.E.

E. ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED STUDY

We considered dam removal as an additional alternative to Northern States' relicensing proposal but eliminated it from detailed study because it is not reasonable in the circumstances of this case. Project retirement accomplished with dam removal would involve denial of the subsequent license application and surrender or termination of the existing license with appropriate conditions.

Based on our economic evaluation of full project retirement (i.e., dam and powerhouse removal), we estimate that full project retirement would cost about $158,300 annually. This project retirement cost includes the undepreciated project debt costs ($18,600), relicensing costs to date ($7,300), dike stabilization costs ($4,600), and dam and powerhouse removal costs ($127,800).

No participant has suggested that dam removal would be appropriate in this case, and we have no basis for recommending it. Under the dam removal alternative, removal of the project dam and restoration of the site would return the section of the Namekagon River affected by the Hayward Project to its natural, freeflowing, state. Removing the Hayward dam is not reasonable because of the social and biological values of the Hayward Lake, both locally and regionally.

Specifically, the lake is a valuable recreational resource and an integral part of several national and international outdoor recreational events. Lake Hayward supports a high quality fishery and recreational use of the lake contributes substantially to the local economy. Also, about 75 percent of Lake Hayward's shoreline is privately developed, and tax revenue from these properties account for about 25 percent of the city's tax base (letter from Lucy Gunther, Clerk-Treasurer, City of Hayward, Wisconsin, February 17, 1995). Thus, based on the significant economic and environmental impacts of dam removal, we did not consider dam removal a reasonable alternative and we eliminated it from detailed study.

IV. AGENCIES AND ENTITIES CONTACTED

A. Agency Consultation

The following entities commented on the application by the October 4, 1993, deadline specified in our notice that the application is ready for environmental analysis.

Commenting agencies and other entities	Date of letter
U.S. Department of the Interior	09/23/93
Wisconsin Department of Natural	10/01/93
Resources	10/05/93

Northern States responded to the agency comments by letter dated November 16, 1993.

B. Interventions

The following entities filed a motion to intervene in the proceeding.

Intervenor	Date of motion
Wisconsin Department of Natural Resource	07/17/92

C. Comments on the Draft Environmental Assessment

The following entities commented on the DEA issued June 16, 1994:

Commenting Entities	Date of Letter
Northern States Power Company	July 14, 1994
Wisconsin Department of Natural Resources	July 27, 1994
U.S. Department of the Interior, National Park Service	August 31, 1994

D. Section 10(j) telephone conference meeting

On September 15, 1994, the Commission's staff held a telephone conference meeting with representatives from Northern States, the WDNR, and the FWS (*see Section 10(j) meeting summary in the attached appendix*). The telephone conference meeting was held in attempt to resolve inconsistencies between fish and wildlife recommendations and requirements under Section 10(j) of the Federal Power Act.

The Section 10(j) issues discussed included the agencies' recommended: drawdown management plan for control of noxious weeds, a barrier net to deter walleye movement downstream of the Hayward Project dam, and the impoundment fluctuation limit. These recommendations were previously described in the DEA and are addressed in section V., Environmental Analysis, of this FEA.

V. ENVIRONMENTAL ANALYSIS

A. General Description of the Saint Croix River Basin (Source: Federal Energy Regulatory Commission, 1983 and 1993).

The Hayward Project is located on the Namekagon River, which is a tributary of the Saint Croix River (see figure 2). The Saint Croix River, located in northwestern Wisconsin and eastern Minnesota, is a tributary of the upper Mississippi River. The drainage area of the Saint Croix River Basin is 7,650 square miles. The river flows through rolling glacial terrain, including agricultural and forest land.

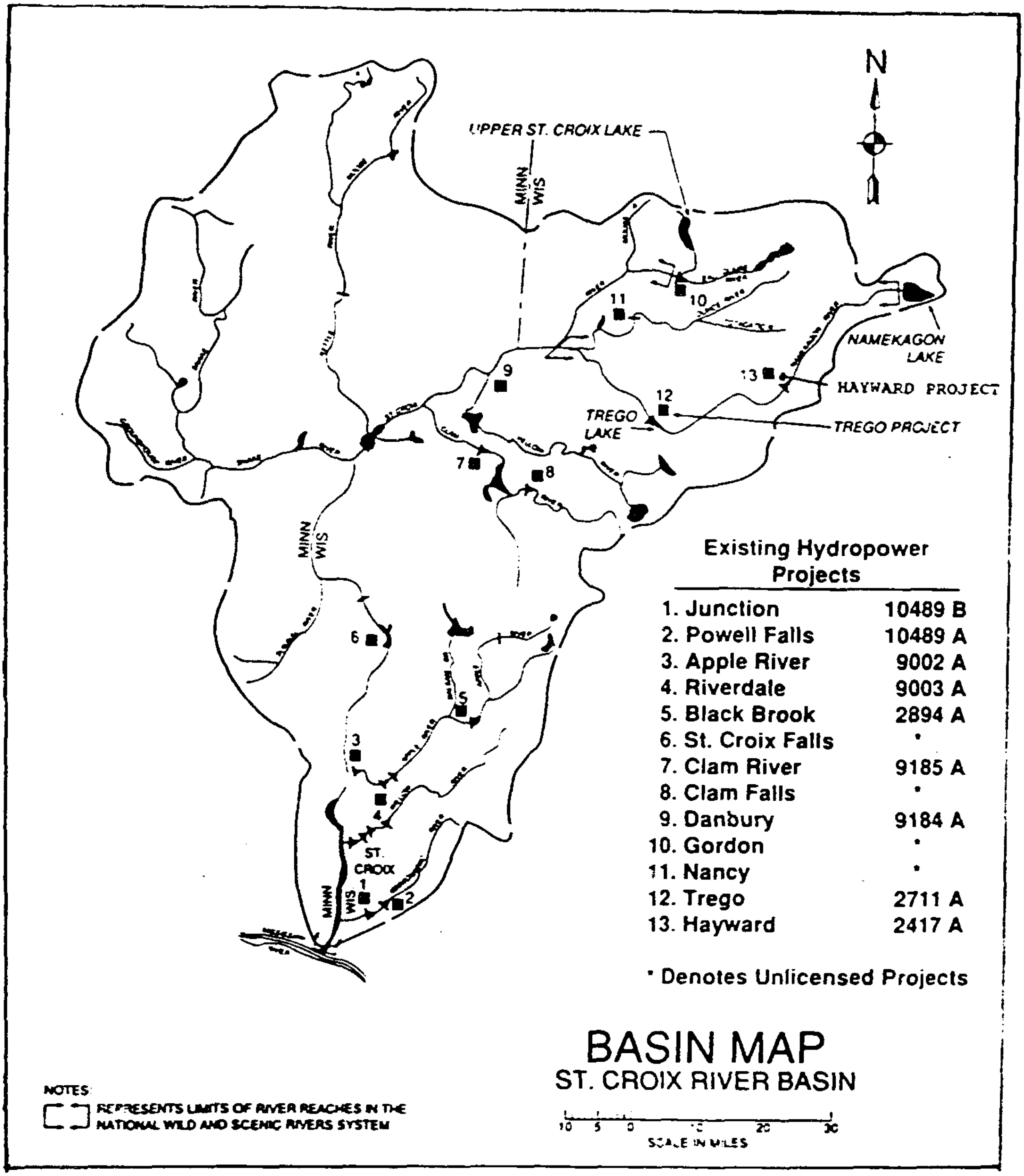

Figure 2. Location of the Hayward Hydroelectic Project in the Saint Croix River Basin (Source: Office of Electric Power Regulation Planning and Status Report, 1982, modified by staff).

The Namekagon River is the largest tributary of the Saint Croix River, with a drainage area of 488 square miles. The project is located about 60 miles upstream from the Saint Croix River confluence and 33 miles downstream from the river's origin at Lake Namekagon. The Namekagon River has a drainage area of about 206 square miles at the project site. One other licensed project, the Trego Project, FERC No. 2711-001, is located on the Namekagon River, about 30 miles downstream of the Hayward Project.

The entire mainstem of both the Saint Croix River and the Namekagon River are included in the Wild and Scenic Rivers System under the National Wild and Scenic Rivers Act, Public Law 90-542. The river reach on which the project is located is designated "scenic," which allows limited development along the river shoreline, including the shoreline of the project impoundment.

As of December 8, 1993, there are a total of 13 hydroelectric developments in the Saint Croix River Basin (see figure 2), including six operating minor projects licensed by the Commission (one of which has two developments), two operating projects with license exemptions, and four operating projects without a license or exemption.

B. Scope of Cumulative Effects Analysis

As part of our environmental analysis, we examined how the Hayward Project would affect all resource areas, including water resources, fish and wildlife resources, cultural resources, and recreation resources. Through the application and agency consultation, we've identified fishery resources and recreational resources that would be part of a cumulative effects analysis (CEA).

We emphasized fisheries resources as a CEA resource because the multiple hydroelectric developments within the Saint Croix River Basin could affect resident fisheries. Fish entrained in the Hayward Project's turbines would cumulatively add to fish entrainment and turbine mortality from other projects within the basin. Multiple hydroelectric projects could also cumulatively effect fisheries by reducing aeration, limiting fish movements, and limiting the reproductive potential of species. In this FEA, fishery resources are discussed in detail in section V.C.2.

We emphasized recreation resources as a CEA resource because the Hayward Project could cumulatively effect canoe touring along both the Namekagon River and the Saint Croix River. These rivers are designated National Wild and Scenic Rivers, due in part to their recreational values. Recreation resources are discussed in detail in section V.C.6.

Prior to reviewing the proposed project in relation to the environmental resources, we first considered the geographic and temporal scope of our analysis, as defined below.

1. The Geographic Scope of CEA Resources - The geographic scope of analysis defines the physical limits or boundaries of the proposed actions' effects on the CEA resources, i.e., fisheries and recreation resources. We considered the entire mainstem of the Namekagon River, and that portion of the Saint Croix River which is below the mouth of the Namekagon River, as our geographic scope of analysis. We considered this portion of the Saint Croix River Basin because the Hayward Project is located in the upper portion of the Namekagon sub-basin. When combined with the effects of other water developments, the Hayward Project could cumulatively effect environmental resources in the Namekagon River, as well as, resources in the Saint Croix River below its confluence with the Namekagon River.

The Hayward Project is also one of two hydroelectric projects located on the Namekagon River, which have historically influenced the social and physical environment along the entire Namekagon River. Finally, we considered the Namekagon and Saint Croix Rivers because of the their inclusion in the National Wild and Scenic Rivers System, and any action along these rivers could affect the rivers' outstanding environmental values.

2. The Temporal Scope of Analysis - The temporal scope of analysis includes a discussion of past, present, and future actions and their effects on the resources. Based on the subsequent license term, we considered the effects of reasonably foreseeable future actions on the resources over 30 - 50 years into the future. The historical discussion of CEA resources considers the effects of actions occurring over the past century and is presented in section V.C. We identified the present resource conditions based on the Northern States' license application for both the Hayward Project and the Trego Project.

C. Proposed Action and Other Recommended Environmental Measures (Source: Northern States Power Company, 1991 and 1992).

We have reviewed the proposed project in relation to the environmental resources in the project impact area, and only the affected resources are analyzed in detail in this FEA. Continuing to operate the Hayward Project wouldn't affect geological resources, aesthetic resources, or socioeconomics. We've excluded these resources from our detailed analysis for the following reasons:

a. Northern States proposes to continue operating the project in a run-of-river mode and proposes no new construction that would affect geological resources. However, the minor effects on geological resources related to Northern States' proposed tailrace modifications and canoe portage enhancements are addressed in the recreation resource section V.C.6.

b. The aesthetic resources at the Hayward Project include the natural scenic setting. Northern States proposes to construct no new project operating facility that would obstruct the view shed. Also, no resource agency recommended any measures to improve the aesthetic quality at the project.

c. The project wouldn't affect the socioeconomics of the area because no major construction activities, with their associated effects on employment, business, infrastructure, and tax revenues, are proposed.

1. Water Resources

Affected environment:

Streamflow:

	cfs[4]	Flow Parameter
Low flow:	119 cfs	exceeded 90 percent of the time
High flow:	297 cfs	exceeded 10 percent of the time
Average flow:	195 cfs	average annual

Flow parameters for the Hayward Project are derived from the U.S. Geological Survey (USGS) records for stream gaging station No. 05332500 located on the Namekagon River in Trego, Wisconsin. We obtained flow data from the Trego station for a 46-year period of record; 1927-1970 and 1987-1990. Flows at the Hayward project were estimated by prorating the Trego gage data; flows recorded at Trego were multiplied by an area adjustment factor of 0.42.

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[4] cubic feet per second.

Our estimated flow duration data for the Hayward Project site is:

Percent Exceedence	Flow (cfs)	Percent Exceedence	Flow (cfs)
95	109	45	180
90	119	40	188
85	126	35	199
80	133	30	212
75	140	25	225
70	147	20	240
65	153	15	261
60	159	10	297
55	165	5	368
50	172		

Based on Hayward's flow duration curve, we estimate the project's hydraulic capacity (178 cfs) would be exceeded about 46 percent of the time. At the project's minimum capacity of 120 cfs, the project would be shutdown about 10 percent of the time due to insufficient streamflow.

Water quality:

Historical water quality data for the Namekagon River is limited. Although no documented information is available, the water quality of the Namekagon River, under historic predevelopment conditions, was probably excellent due to its unrestricted flow and the natural aerating effect of its many riffle areas. Hydroelectric development on the Namekagon River has restricted the river's flow. In addition to restricted flows, the City of Hayward's municipal waste discharge may have historically affected the river's water quality. The municipal waste discharges into the Namekagon River just downstream of the Hayward Project dam.

The Namekagon River and its flowages, in the vicinity of the Hayward Project, are classified by WDNR as they relate to water quality standards, for the protection and propagation of fish and other aquatic life. They are also classified for the provision of recreation in and on the waters. Further, the section of the Namekagon River which includes the project site is classified under Wisconsin regulations as an "outstanding resource water." Upstream and downstream of the project is Class II trout water.

The state standards for fish and aquatic life include the following numerical criteria: a minimum dissolved oxygen (DO) concentration of 5 milligrams per liter (mg/l) at all times, natural daily/seasonal water temperature fluctuations maintained with temperature not to exceed 89°F for warmwater fish, a pH within the range of 6 to 9, and substance toxicity concentrations within the Environmental Protection Agency guidelines.

Water quality data for the Namekagon River and the Hayward impoundment, obtained by the USGS and the NPS from 1975 to 1983, show that the water quality in the project vicinity was good for most uses (Graczyk, 1986). Water temperature did not exceed 75.2°F and DO equalled or exceeded 8.1 mg/l. Based on a 1989-90 water quality monitoring study, the water quality in Hayward Lake and the Namekagon River is very good. DO exceeded the state standard of 5 mg/l (averaged 8.9 mg/l), with the exception of one case where water near the bottom of the flowage dropped to 4.8 mg/l. The maximum water temperature recorded was 80.6°F, which occurred in the flowage. Further, water temperature increased from upstream of the flowage to downstream of the project tailrace; the greatest difference was in August (12.2°F). Total phosphorus averaged 0.024 mg/l, total alkalinity averaged 71.6 mg/l, and total dissolved solids averaged 88.0 mg/l.

Testing for several organic compounds and trace metals indicates some contamination of the Hayward Lake sediments. Elevated levels of oil and grease were found in several sediment samples. In addition, arsenic, chromium, mercury, and lead were found to be above background levels for these trace metals. Northern States attributes the high metal concentrations, as well as the elevated levels of oil and grease, to either point-source discharges in the City of Hayward or the indirect discharge of contaminants from a leaking underground storage tank in close proximity to Hayward Lake.

Environmental impacts and recommendations:

a. Water quality: Because of the stop-log type spillway at the Hayward dam, leakage rates can vary significantly. The greatest amount of leakage occurs immediately after stop-log replacement. To minimize leakage through the stop-logs, Northern States uses a "cindering" process to seal small holes between stop-logs. WDNR states that introduction of toxic compounds or contaminants into the Namekagon River is detrimental to the ecology of the river. Further, the NPS says that dispersing fly ash into the water may introduce contaminants into the river.

To ensure that the material used for cindering contains no contaminants, WDNR and the NPS recommends analyzing annually a sample of each source of ash used in the "cindering" process and submitting the results to the WDNR for review. WDNR recommends analyzing for bulk chemistry of contaminants that may exceed either environmental guidelines or standards for water, sediments, or biota. WDNR indicates that they may restrict this practice if environmental harm is likely. WDNR further recommends that the analyses include the following (and any contaminants that may be identified in the future): arsenic, cadmium, chromium, copper, iron, lead, manganese, mercury, nickel, zinc, and any other potential contaminant that is associated with a particular source of ash.

Northern States indicates that the cinders used at the Hayward Project originated from a single source, and that the ash was analyzed in August 1992. The trace metals analyzed included aluminum, antimony, arsenic, barium, cadmium, chromium, iron, lead, manganese, mercury, nickel, selenium, silver, and zinc. In addition to the trace metals, the analysis included chlorine, fluorine, sodium, calcium, potassium, and sulfur. The analysis indicates low trace metal concentrations, with some below the range of naturally occurring metals found in soils. The elements were also present in low concentrations.

Our recommendation: While we agree with Northern States that the ash used to cinder the gates is relatively inert and environmentally harmless, we also recognize that future dispersal of fly ash/cinders into the water may introduce contaminants into the Namekagon River. Such contaminants could effect the ecological resources of the Namekagon River. Therefore, the licensee should sample and analyze annually each source of ash used to "cinder" the spillway gates at the Hayward Project. The analysis should be for bulk chemistry of contaminants, and the Licensee should submit the results of the analysis to the WDNR, the NPS, and the FWS.

Monitoring the fly ash/cinders used at the Hayward Project would help minimize any potential effects on water quality in the Namekagon River. Northern States' proposed run-of-river mode of operation, minimum flow to the bypassed reach, and plans to develop a drawdown management plan, would also minimize any effects on water quality in the Namekagon River.

b. Project operation: Northern States currently operates and proposes to continue operating the Hayward Project in a run-of-river mode. Northern States would continue to maintain the headpond elevation at the target elevation of 1,187.4 feet under normal project operations, with a fluctuation between 1,187.0 feet and 1,187.5 feet. This fluctuation tolerance in the headwater is needed to account for emergency operating conditions such as droughts, heavy rainfall periods, ice jams, and unscheduled plant outages. An alarm sounds at Northern State's dispatch center should the impoundment level fall below 1,187.0 feet.

The FWS, the NPS, and WDNR recommend the project operate in a run-of-river mode, such that instantaneous outflow equals instantaneous inflow. The resource agencies recommend maintaining the impoundment elevation at a target elevation of 1,187.4 feet, with a fluctuation of ±0.25 feet. The FWS and WDNR state that Northern States may temporarily modify the recommended run-of-river operation if required by operating emergencies beyond Northern States control.

Should Northern States temporarily modify the run-of-river operation, the FWS recommends that they take all practical steps to return the project to normal operations within the following 8-hour period. Should Northern States exceed the ±0.25-foot operating range for a period of 24 hours or more, the FWS recommends that Northern States notify WDNR and the Commission within 10 days of each occurrence. Further, the FWS recommends that Northern States submit quarterly reports to WDNR and the FWS identifying instances when the impoundment surface elevation exceeded the ±0.25-foot operating range, and should include an explanation for each deviation. WDNR also recommends that during drought events which require alteration of project operations, Northern States should consult with the WDNR, the FWS, and the NPS to determine the appropriate course of action.

Northern States concurs with the agencies' run-of-river recommendation. However, Northern States questioned the agencies' definition of run-of-river and disagreed with the agencies' recommended ±0.25-foot fluctuation around the target elevation.

The agencies' definition of run-of-river stipulates that project inflow and outflow are to be equal on an instantaneous basis. We consider this an unrealistic definition in that the "instantaneously equal" standard is likely never achieved, nor do we expect it to be. Further, because the Namekagon River flow is relatively stable, we expect that Northern States would continue to operate the project in such a way so as to maintain the impoundment level within a very narrow range, ensuring run-of-river operation.

We conclude that the agencies' recommended ±0.25-foot fluctuation limit is overly restrictive for two reasons. First, the project is currently operated manually by an operator from the downstream Trego Project (located 45 minutes from the Hayward Project). The Hayward Project is too small to support a full time on-site operator, and the operator visits the project on a near-daily basis to maintain impoundment levels within prescribed limits.

Second, there are many factors that can cause changes in reservoir elevation that are beyond Northern States control (even with an operator on-site). Wind tides (wind setup), ice jams, and floods are among these factors. Because the impoundment is about 2.25 miles long and has a maximum width of 0.30 miles, wind setup can cause different reservoir elevations at different points in the reservoir at the same time. As a result, Northern States shouldn't be penalized if, while making a good faith effort to remain within the normal operating range, they fail to achieve restrictive target elevation objectives. During the Section 10(j) telephone conference, the FWS and WDNR subsequently agreed with Northern States' fluctuation tolerance in the headwater provided that Northern States does not use the variation for peaking operation.

Regarding the FWS's recommendation for restoring the headpond elevation to normal operating levels after emergency conditions, we expect that Northern States would make every reasonable effort to restore the impoundment to normal operating levels. The FWS's recommendations for documenting compliance with the headwater operating rules are discussed in the following section.

Northern States' run-of-river operation, as currently practiced, is not having any detrimental impact to the aquatic resources of Hayward Lake or the Namekagon River downstream. We conclude that the present mode of run-of-river operation would continue to minimize reservoir fluctuations. Also, the current project mode of operation would prevent large fluctuations in flows downstream of the project that would adversely effect aquatic resources by reducing or altering available habitat.

Northern States' proposed operation would maintain the natural volume and periodicity of streamflow downstream from the project. Because the project would not alter streamflow in the Namekagon River upstream or downstream, project operation would not affect fish and wildlife habitats, including any wetland areas. Further, the continued run-of-river mode of operation wouldn't contribute to any cumulative effects on DO concentrations and water temperatures in the river basin.

Our recommendation: To protect aquatic habitat, water quality, and other water resource values, we recommend that the licensee: (1) operate the project in a run-of-river mode such that instantaneous inflow to the project impoundment approximates instantaneous outflow from the impoundment; (2) maintain a stable impoundment level to the extent that operating conditions and equipment calibration permit; and (3) maintain an impoundment elevation of 1,187.4 feet, but allow for a fluctuation around the target elevation, such that the impoundment is maintained between 1,187.5 feet and 1,187.0 feet. The licensee should not operate the project between the low and high ends of this operating range on a daily basis for peaking purposes.

The licensee may modify these operational requirements for operating emergencies beyond the licensee's control, or for short periods of time, upon mutual agreement between the licensee, WDNR, the FWS, and the NPS.

c. Gaging: The FWS and WDNR recommend that Northern States develop and implement a plan to monitor the proposed run-of-river operation, the target headpond elevation of 1,187.4 feet, and the proposed minimum flow release of 8 cfs (*as described in section V.C.2, Fishery Resources*). The monitoring plan would include provisions that would require the Northern States to:

1. install and maintain headwater and tailwater staff gages, and associated records (i.e., daily operator logs);

2. install, operate, and maintain automated equipment that continuously records reservoir and tailwater elevations;

3. install and maintain a staff gage upstream of the project in a location easily visible to the public;

4. develop a flow rating curve for the project, with calibration of flows checked at two-year intervals;

5. provide flow calibration data (for flow rating curve) and headpond and tailwater elevation data to the FWS and WDNR, and install, operate, and maintain USGS-type gaging stations upstream and downstream of the project if needed;

6. submit quarterly reports to the FWS and WDNR identifying instances the operating range is violated, including an explanation for each occurrence; and

7. develop an implementation schedule.

To monitor compliance with run-of-river operation at the Hayward Project, Northern States proposes to maintain the existing headwater and tailwater staff gages, modify the existing headwater staff gage for public visibility, and renovate an existing continuous recording headwater gage in 1994. Further, Northern States would provide daily records to the agencies for review upon request. However, there is no evidence to indicate that Northern States would monitor flows through the bypassed reach.

While we agree with the need for an operational compliance plan for the Hayward Project, we disagree with several aspects of the agencies' plan. Specifically, we disagree with requiring Northern States to: (1) install and operate automated equipment that continuously records reservoir and tailwater elevations, (2) install and operate a USGS-type stream gage, and (3) provided a flow rating curve. We find that these measures would cost Northern States nearly $20,000 annually and would significantly impact the project's economics (*see table 3, page 61*). We concluded, pursuant to Sections 4(e) and 10(a) of the FPA, that the costs associated with these three measures outweigh the value of their potential benefit.

To monitor the Hayward Project's mode of operation, Northern States proposes to renovate its current system that documents hourly headwater elevations on a continuous recording circular chart. In addressing the need for a flow rating curve for the Hayward Project, we note that Northern States has indicated that such a curve is currently available, and they would supply the agencies with the curve upon request. Further, the flow rating curve is based on flow through the turbine which has a very slow rate of wear. We conclude that Northern States' proposed operational measures would adequately monitor the project operation. WDNR and the FWS may request additional streamflow gaging measures in the future under the provisions of the standard articles included in any license issued for the Hayward Project.

Our recommendation: Impoundment and tailwater elevation monitoring is necessary to verify the operation of the Hayward Project and any flow requirements. We believe that Northern States' proposed operational monitoring measures would adequately monitor the proposed mode of operation for the Hayward Project, including the impoundment level requirements. Northern States should improve the existing headwater staff gage with the public visibility features suggested by the resource agencies. Further, gaging is needed in the project's bypassed reach in order to monitor compliance with the recommended minimum bypassed flow (*see section V.C.2.a, at page* 25).

Therefore, we recommend that the licensee, after consultation with WDNR, the FWS, and the USGS, develop a plan to monitor the operation of the project. The licensee should monitor the project operation using any existing, modified, and/or additional staff gages, located in appropriate locations, and by renovating the continuous recording headwater gage. The plan should include (1) methods of impoundment and tailwater elevation and flow data collection (including flows through the powerhouse, in the project's bypassed reach, and in the Namekagon River downstream of the project); (2) descriptions of the proposed location, design, and calibration of all monitoring devices; (3) an implementation schedule; and (4) a provision for providing elevation and flow data to the consulted agencies (i) within 30 days from the date of an agency's request for the data, or (ii) by submitting quarterly elevation and flow data reports to the FWS, WDNR, and the St. Croix National Scenic Riverway office of the NPS.

d. Flow continuation during power outages: The FWS recommends that Northern States pass river inflow through the project on an instantaneous basis, or within a few minutes, should the project go off line. The FWS says its recommendation is intended to avoid sudden interruption of flow below the dam, which could dewater aquatic habitat in the tailwater area and kill small fish and other aquatic life. We agree.

Northern States' proposed operation for the Hayward Project would allow a maximum impoundment level fluctuation of 0.5 feet below the top of the ungated spillway. In the event that the project goes off line while the impoundment is below the spillway crest, flows (except for the minimum bypassed flow) would not be released to the Namekagon River downstream from the project. This condition would continue until the dam operator manually removed the stop-logs from the spillway, or until the impoundment water level increased to a point where it would spill over the top of the spillway.

The Hayward Project has no storage capability. Based on the project's maximum hydraulic capacity and the project's annual flow duration curve, we estimate that spillage at this project would occur about 46 percent of the time. Extended periods without downstream flow would be detrimental to the fisheries and other aquatic resources downstream of the Hayward Project, particularly during the low-flow, high-temperature summer period. Therefore, Northern States should operate the Hayward Project such that periods of inadequate flow downstream of the project are minimized.

Our recommendation: It is unclear how Northern States would minimize periods of inadequate flow downstream of the project during scheduled or unscheduled project shutdowns. Therefore, we recommend that the licensee, in consultation with WDNR and the FWS, develop a plan that identifies any reasonable operating provisions that would minimize, to the extent possible, extended periods without flow releases downstream of the project when project shutdowns coincide with impoundment elevations below the crest of the spillway. The plan should also include a schedule for implementing any, or all, of the measures outlined in the plan. The licensee should submit the plan to the Commission for approval.

Unavoidable adverse impacts: None.

2. Fishery Resources

Affected environment: The fish community of Hayward Lake and the tailwaters of the dam was sampled in 1991, and on several occasions by WDNR during the 1980's. Early sampling records date back to 1944, 1965, and 1977. According to these surveys, the composition of the fish community in Hayward Lake has remained quite stable throughout the 45 years of sampling. Species that were present in 1991 but not documented during the 1944 or 1965 surveys include the muskellunge and chestnut lamprey, and a couple of species that may have been present but considered the same in the early surveys (i.e., bullhead spp. and redhorse spp.).

The Namekagon River is a clear, relatively fast flowing stream. The river has a generally wild character with numerous riffles and rapids that are formed as water flows over the rubble and gravel-lined bottom. Occasional shallow pools occur between the fast water runs and riffles.

Development of the Hayward and Trego Projects on the Namekagon River inundated about 8.25 miles, or about 8.5 percent, of the river. Hayward Lake is a 2.25 mile long, 247-acre impoundment. The lake has about 8.4 miles of shoreline, a maximum depth just upstream of the dam of 17 feet, and an average depth of only about 5 feet. The lake is narrow throughout its extent with maximum width of about 1,600 feet.

The Hayward Lake gamefish community is dominated by northern pike and largemouth bass, with lesser populations of walleye and muskellunge. Bluegill and yellow perch dominate the panfish community, with black bullhead and black crappie also present. Abundance, growth, and size structure statistics for these species generally are average to above average for the region. However, walleye recruitment and adult population density are lower than would be expected. In addition, a wide variety of forage fishes and other non-game species also reside in the Namekagon River, including shorthead redhorse, golden redhorse, white sucker, northern hogsucker, common shiner, blacknose and bluntnose minnows, trout-perch, hornyhead and creek chubs, central stoneroller, chestnut and southern brook lampreys, and numerous other species of minnows and shiners.

The Namekagon River below the dam to the Washburn County line is designated as Class II trout water and is known to support some carry-over brown and rainbow trout from one year to the next. This same stretch of river also supports a seasonal (i.e., winter months) population of migrant native brook trout.

Past fisheries management by WDNR has consisted of numerous surveys, stocking, habitat development, and access development. Walleye and muskellunge fingerlings are stocked in the lake on an alternate year basis. In addition, brown and rainbow trout are stocked in the river upstream from Hayward Lake and immediately downstream of the dam.

Hayward Lake has long held the reputation as a good bass/panfish lake. Over the years it has produced trophy walleye and muskellunge in numbers and sizes exceptional for a lake its size and in its region. Further, the tailwater section provides unusual angling opportunities for a diverse mix of warmwater, coolwater, and coldwater species. While the fishery is popular with local anglers, Hayward Lake is lightly fished by regional standards for lakes less than 500 acres in size (Pratt, 1993).

Environmental impacts and recommendations:

a. Instream flows in the bypassed reach: The bypassed reach between the Hayward dam and the powerhouse tailrace encompasses about 170 feet of the Namekagon River. By diverting water for power generation, the Hayward Project would continue to reduce flows over the crest of the project dam and into the bypassed segment of the Namekagon River.

Northern States agreed to work with WDNR during 1992 to quantify existing leakage, and to pass a comparable flow in the future. Based on the August 1992 joint flow-release exercise, Northern States and WDNR agreed that a continuous minimum flow of 8 cfs would be adequate to protect the instream habitat for fish and other aquatic organisms in the project's bypassed reach. Therefore, WDNR and the FWS recommend that Northern States continuously release a minimum flow of 8 cfs to the bypassed reach downstream of the Hayward flowage. To provide the minimum flow, they recommend that Northern States permanently remove one board measuring 11.5' x 6" from the fourth bay of the spillway as counted from the west edge of the spillway. Northern States indicated that this flow release would begin once they complete the habitat restoration project in 1994 (*see section V.C.2.b*).

The bypassed reach is composed of a short riffle area immediately below the dam, followed by shallow pool habitat. Because the shallow pool may provide refuge for fish during stressful low-flow, high-temperature periods, flow circulation within the pool is critical for maintaining the suitability of the pool refuge. Another important factor in determining the suitability of the pool refuge is the DO concentration within the pool during the critical time period.

Although Northern States would operate the project in a run-of-river mode, operation of the project without a minimum flow wouldn't provide sufficient flow reaeration critical to fish and other aquatic resources during periods when the project's hydraulic capacity is not exceeded (about 54 percent of the time), particularly during low-flow, high-temperature periods. A minimum flow of 8 cfs provides adequate aeration to maintain water quality (DO) in the bypassed reach, including the shallow pool and other downstream areas in the bypassed reach during the critical low-flow, high-temperature period.

Our recommendation: To protect fishery resources in the bypassed reach (including the value of the pool refuge), we recommend that the licensee provide a continuous minimum flow of 8 cfs, or inflow, whichever is less, from the project dam and into the bypassed reach. As recommended by WDNR and the FWS, the licensee should provide the flows by removing one board measuring 11.5' x 6" from the fourth bay of the spillway as counted from the west edge of the spillway. In addition, the licensee should prepare a plan, for Commission approval, to monitor compliance with the 8-cfs minimum flow in the bypassed reach (*as previously described in section V.C.1., Water Resources*).

b. Stream habitat modifications: Recent spillway reconstruction and subsequent bank erosion has degraded the quality of aquatic habitat in the project's bypassed reach. Northern States has agreed to implement a habitat rehabilitation plan to stabilize and restore the bypassed reach of the Namekagon River. The rehabilitation plan was developed in consultation with the WDNR and the NPS to improve fish habitat, canoe portage access, and to enhance shoreline fishing opportunities.

Northern States submitted to the Commission the **"Remediation Plan to Stabilize and Restore the Namekagon River Channel and Shoreline Downstream from the Hayward Dam Spillway"** (Remediation Plan). The Remediation Plan addressed three strategies for improving fishing and recreational opportunities below the Hayward Project, including ■ correcting the existing bank erosion problem in the immediate spillway area, ■ stabilizing the canoe portage trail and the unimproved road, and ■ rehabilitating and stabilizing the pool area. The habitat rehabilitation measures included in the Remediation Plan, as agreed to by Northern States, WDNR, and the NPS, would include:

1. modifying the existing bypassed reach by installing a rock flow deflector which would narrow the river channel and increase velocities in the bypassed channel, and encourage scouring in the pool area;

2. excavating a limited amount of channel material from the pool area; and

3. placing several large "spotter" boulders in line with the deflector which would extend downstream to the pool area, and act as velocity breaks for any fish species that may use the bypassed reach during high flow periods.

Northern States indicates that they are working with WDNR and the NPS to finalize the plans for the habitat restoration project in the bypassed reach. Northern States proposed to do the work in 1994, once the plan is finalized and the necessary permits obtained. WDNR recommends that Northern States, under direction of the resource agencies, implement the Remediation Plan to optimize fish habitat and restore habitat lost/damaged due to the recent dam reconstruction.

Our recommendation: We agree that the measures identified to stabilize and restore the bypassed reach would improve the quality and quantity of aquatic habitat in the bypassed reach for fish and other aquatic organisms. Specifically, these measures would increase the depth and velocity of the bypassed reach, provide velocity shelters during periods of high flow, and help to maintain suitable substrates in the bypassed reach.

Therefore, we recommend that the licensee implement the measures described in the Remediation Plan, including any subsequent modifications, to restore the aquatic habitat in the project's bypassed reach. The licensee should submit the final Remediation Plan to the Commission for approval, including design drawings for any enhancement measures and schedules for installing the enhancement measures.

c. Fish protection: Project operation would continue to affect the fishery resources by entraining fish into the project turbines that could cause injury and mortality. Mortality or injury could occur as a result of fish being struck by turbine blades, pressure changes, sheer forces in turbulent flows, and water velocity accelerations (Knapp et al., 1982; Cada, 1990).

Because of the high quality fishery in Hayward Lake, there is particular concern for protecting resident species from entrainment mortality, including northern pike, largemouth bass, walleye, muskellunge, and a number of panfish species. Recent studies of entrainment mortality indicates that the type of turbine used at the project can entrain, injure, or kill various warmwater/coolwater fish species (Electric Power Research Institute, 1992); average mortality for bluegill, largemouth bass, walleye, and northern pike approached 25 percent, but generally was less than 20 percent.

To minimize the potential for turbine mortality associated with the Hayward Project, Northern States proposes to maintain the existing trashracks, which have a 1.5-inch clear spacing between bars and intake velocity at full gate of 1.5 feet per second (fps). Northern States supports its proposal with the results of the 1991 Hayward Lake fish survey, which shows a high quality fishery exists in Hayward Lake under the current mode of operation for the Hayward Project.

Although the fish survey documented a very healthy fishery in Hayward Lake, walleye recruitment and adult population density were poor to fair by regional standards. Because entrainment is thought to be the cause, the FWS and WDNR recommended the installation of a barrier net to protect fish from turbine entrainment. WDNR says the barrier net is primarily intended to reduce entrainment of juvenile walleye, and recommend installing the net seasonally from May 1 to July 1 each year. During the Section 10(j) telephone conference, WDNR subsequently recommended installing the net from June 1 to July 31. WDNR recommends that Northern States install the net by 1995. WDNR would evaluate the net's effectiveness, with a report and recommendations provided by December 31, 2000. WDNR states that the evaluation standard would be a sufficient number of young-of-year walleye to support an adult walleye standing stock of 3 per acre.

Table 1 shows the results of the 1991 Hayward Lake fish survey, relative to population density, growth, and size structure for selected species of management importance.

Table 1. Summary of species abundance, growth rates, and size structure indices for selected fish in Hayward Lake (Source: Pratt, 1993). Regional status is shown in parenthesis[1].

Species	Density (no./acre)	Mean Length (inches)	Size Structure[2] PSD
Northern Pike	5.1 (+)	16.2 (0)	0.27 (+)
Largemouth bass	3.5 (+)	14.1 (+)	0.87 (+)
Walleye	1.0 (-)	13.6 (-)	0.55 (+)
Muskellunge	<1.0 (0)	21.7 (+)	0.92 (+)
Bluegill	N/A (+)	6.8 (0)	0.79 (+)
Yellow perch	N/A (+)	5.9 (0)	0.11 (+)
Bullhead spp.	N/A (+)	7.9 (N/A)	0.20 (+)

[1]Hayward Lake's status relative to the regional average [0, comparable to region; +, above regional average; and -, below regional average].

[2]Size structure index (PSD, proportional stock density) as defined in Gablehouse (1984). PSD is a statistic that measures the number of stock size fish (size varies depending on the species) in the population relative to the entire population, and therefore, is a measure of a fishery's quality.

With the exception of walleye abundance and growth, the Hayward Lake fishery is comparable or above average for the region. Further, largemouth bass and muskellunge abundance and size structure, have increased in Hayward Lake relative to past surveys. Based on the results of the 1991 fish survey, WDNR concluded that, except for walleye, the Hayward Project, as currently operated, is having little, if any, discernable impact on the fish community in Hayward Lake.

There are many factors that could be affecting Hayward Lake's walleye population, including loss of juvenile walleye through the Hayward Project, the lake's habitat characteristics, and competition with other species.

Walleye loss from system - WDNR speculates that entrainment through the Hayward Project is contributing to the poor abundance of walleye in Hayward Lake. However, the report for the 1991 fish survey (Pratt, 1993) offers no definitive insights as to the Hayward Project's role in the lower than expected population density and growth for walleye in Hayward Lake.

The original range in Wisconsin rivers of several fish species, including walleye, is discussed by Becker (1983). Throughout the course of its life history, walleye may utilize large amounts of riverine habitat, resulting in extensive movement within a riverine system. Young-of-year walleye exhibit a natural tendency to disperse from the area where they were hatched, or stocked, which increases this life stage's vulnerability to either spillway escapement or passage through a project's turbine (Davin et al., 1989).

Jernejcic (1986) documented walleye (age 0 and age 1) movement out of an impoundment through Tygart dam in West Virginia from December through April. Jernejcic suggested that this movement was probably selective on the part of walleye, in that no other species exhibited similar movement patterns.

Tygart Lake differs from Hayward Lake in size, volume, and operation. However, juvenile walleye in Hayward Lake may exhibit movement patterns similar to that observed at Tygart dam, particularly since water spills over Hayward dam about 46 percent of the time and the volume of spillage is generally highest during the late spring and early summer. The agencies' and our recommended 8 cfs minimum flow over the spillway would also contribute to the downstream movement of walleye (*see section V.C.2.a*).

The FWS and WDNR suggest that walleye entrainment is having a detrimental effect on the walleye population in Hayward Lake. We agree that fish escapement is likely occurring at Hayward Lake, and that this loss may have a detrimental effect on the walleye population in Hayward Lake. Due to the flow patterns over the Hayward Project spillway, we also believe that the downstream walleye movement would continue even if a barrier net was installed at the project intake. However, recruitment of walleye from Hayward Lake into the Namekagon River downstream could provide benefits to the limited walleye fishery downstream. Jernejcic (1986) found walleye escapement from Tygart dam was important to maintaining the downstream walleye fishery; walleye fishing success (catch per unit effort) was higher in the tailwater than in the lake (0.56 vs. 0.32 fish caught per hour).

In its letter dated July 27, 1994, and during the Section 10(j) telephone conference, WDNR disagreed with our assessment in the DEA regarding walleye escapement from Hayward Lake and provided evidence to support its position. WDNR stated that recent entrainment studies indicate that walleye entrainment through a hydroelectric project can be substantial. WDNR cites studies from the Crowley (FERC No. 2473) and Thornapple (FERC No. 2475) Projects on the Flambeau River. WDNR estimates that of the 69,439 fish entrained at Crowley, 41 percent (28,252 fish) were walleye. Most of these walleye were young-of-year; 93 percent were less than 3 inches in length and 69 percent were less than 2 inches long. At Thornapple, walleye comprised only 9 percent of the fish entrained, and were primarily young-of-year fish; 59 percent of all fish entrained were between 2.0 and 3.9 inches long. For both studies, walleye entrainment occurred in May, June, and early July.

We do not dispute the results of these studies, and concur with the findings relative to the extensive movement patterns exhibited by walleye. According to WDNR, 10,000 walleye fingerlings (2 inches in length) are stocked in Hayward Lake every other year. These fish are stocked during the months of June and July, and based on the Crowley and Thornapple study results, would be subject to escapement and/or entrainment during this period. Based on studies conducted by Lawler, et al. (1991), we conclude that the proposed 1.5-inch bar spacing would afford little, if any, protection to the 2-inch walleye stocked in the lake.

A barrier net with 3/8-inch mesh would provide a higher level of protection to walleye fingerlings than the existing trashrack with 1.5-inch bar spacing. The recommended barrier net would not, however, eliminate the problem, as walleye would continue to move over the crest of the dam during spill events. WDNR acknowledged the fact that walleye loss would continue to occur, but stated that the intent of the barrier net is to reduce, not eliminate, loss of walleye from the lake.

In the DEA, staff expressed concern regarding the effect of reduced escapement of walleye on the downstream fishery. WDNR stated that the Namekagon River between the Hayward and Trego Projects has a very limited walleye fishery. This segment of the river is characterized as transitional (from coolwater to warmwater), which would provide limited, and somewhat poor quality habitat for walleye. Although the quality of walleye habitat in the Namekagon River between Hayward and Trego is questionable, reduced walleye escapement from Hayward Lake would have some effect on the downstream fishery. Based on the quality of habitat in this segment of the river, we expect any effects on the downstream fishery to be negligible.

Hayward Lake habitat characteristics - WDNR, in the 1991 Hayward Lake fish survey, concluded that Hayward Lake's habitat characteristics suggest that the lake should support a better walleye fishery than currently exists. However, WDNR did not address the suitability of Hayward Lake's habitat. Northern

States suggested that the shallow, weedy habitat of Hayward Lake may be responsible for the low numbers of walleye.

In developing habitat suitability curves for walleye, McMahon, et al. (1984) summarized the habitat requirements of walleye. Walleye are generally most abundant in moderate-to-large lakes (>250 acres) or riverine systems characterized by cool temperatures, shallow to moderate depths, extensive littoral areas, moderate turbidities, extensive areas of clean rocky substrate, and mesotrophic "*moderately nourished*" conditions. Walleye are less abundant in eutrophic "well-nourished" systems (usually dominated by sunfish and bass), as eutrophication tends to significantly reduce habitat quality for walleye (McMahon, et al., 1984). Entz (1977) and Forney (1977) reported that walleye were most productive in waters classified as mesotrophic to slightly eutrophic.

Hayward Lake is a small (247 acres), relatively shallow (average depth of 5 feet), impoundment that generally does not exhibit DO or water temperature stratification. Northern States indicates that the lake is productive, as evidence by the total organic carbon level which varies from 9,100 to 310,000 mg/kg dry weight. Further, Hayward Lake is dominated by northern pike, muskellunge, largemouth bass, and bluegill. These characteristics of Hayward Lake, together with its watershed characteristics, suggest that Hayward Lake is a eutrophic system, and may not be suitable to support a large number of walleye.

During the Section 10(j) telephone conference, WDNR responded to staff's analysis of Hayward Lake's habitat characteristics. WDNR stated that aquatic vegetation is very prominent in Hayward Lake. WDNR also stated that aquatic vegetation in Hayward Lake is reaching a point where the fishery could be negatively affected; the predator-prey ratio would be altered. Further, WDNR states that very little natural reproduction of walleye occurs in Hayward Lake. This is attributed to the extensive sediment beds in the lake.

Nevertheless, WDNR considers Hayward Lake to be walleye habitat. WDNR supports their position by stating that walleye in Wisconsin inhabit a wide variety of habitat types, ranging from mesotrophic to eutrophic waters. WDNR also states that their 3 fish/acre criteria for Hayward Lake is based on an extensive, very broad-based database for walleye in the state of Wisconsin. Additionally, WDNR suggested that impoundment drawdowns, as described in section V.C.3.d. of this FEA, would improve habitat conditions in the lake by oxidizing sediments along the shoreline, which would benefit walleye reproduction.

Hayward Lake, as it presently exists, does not appear to contain suitable habitat to support a substantial walleye population. Implementing scheduled management drawdowns may, however, provide substantial benefits to the habitat quality in Hayward Lake. Management drawdowns when coupled with protecting walleye fingerlings may improve walleye recruitment and, ultimately, the lake's fishery.

Competition with other species - Competition was never addressed by the resource agencies as a possible reason for the low numbers of juvenile walleye. Walleye are known to associate with yellow perch, northern pike, muskellunge, and smallmouth bass (Scott and Crossman, 1973). These species, as well as, walleye, are known to feed on young fish, suggesting that competition among these species for prey may exist. This conclusion is supported by Forney (1977), who reported that reduced competition among walleye, American eel, northern pike, and chain pickerel enhanced walleye recruitment.

Scott and Crossman (1973) indicate that northern pike is probably the most important predator of walleye over much is its range, while muskellunge, largemouth bass, and a variety of other species also prey on young walleye. In studying the relationship between walleye and smallmouth bass, Johnson and Hale (1977) indicated that a large population of bass could influence walleye fingerling survival. Strong populations of northern pike, largemouth bass, and muskellunge exist in Hayward Lake, which may indicate that, although opportunistic in their feeding habitats, predation on young walleye by these species may be an important factor limiting walleye growth and abundance.

Walleye, particularly young walleye, feed on aquatic insects and macroinvertebrates (Scott and Crossman, 1973), which are also the primary food source for bluegill, black crappie, and a variety of other panfish. Bever and Lealos (1974) suggested that an inverse relationship exists between walleye numbers and the abundance of panfish. Hayward Lake has a healthy panfish fishery, suggesting that competition between walleye and panfish for food sources, may have an influence on the walleye population in Hayward Lake.

WDNR commented on staff's DEA discussion concerning competition and predation. WDNR acknowledges that predation on walleye probably occurs, especially on those in the 2-inch length class. WDNR contends that Hayward Lake, based on the 1990 fishery survey, contains an ample and diverse forage base, and that there is no evidence that shared resources are limited and in short supply. Additionally, WDNR states that walleye growth and condition do not support the hypothesis that competition is limiting the size of the walleye population.

We do not dispute the results of the 1990 Hayward Lake fishery survey, and concur with the findings relative to the diverse and abundance forage base in the lake. We note, however, that Hayward Lake's outstanding fishery, including the current species composition, is the result of the existing environmental conditions in lake. Because competition and predation occur in natural systems, increasing the number of adult walleye from 1 fish/acre to 3 fish/acre may result in changes in the fish community, which may be either beneficial or detrimental to the overall fishery.

Our recommendation: In the DEA, we concluded that the FWS and WDNR had not demonstrated that the recommended barrier net would increase the number of walleye in Hayward Lake to a standing stock of 3 fish per acre or provide substantial benefits to the fishery. We also concluded that Northern State's proposal to maintain the existing 1.5-inch trashracks would continue to provide a level of protection that would minimize resident fish entrainment and impingement at Hayward.

WDNR subsequently stated that the performance standard of 3 fish per acre could be attained if recruitment losses dropped to 30 percent or less. According to the WDNR, the 3 fish per acre performance standard can be achieved by reducing entrainment with a barrier net system. WDNR also stated that protecting young walleye would result in substantial benefits to the fishery in the form of improved walleye fishery and better fishing opportunities.

During the Section 10(j) meeting, the Commission's staff, WDNR, the FWS, and Northern States agreed to an approach whereby WDNR and Northern States would share the responsibility of implementing a fish protection plan.

The cooperative arrangement between Northern States and WDNR, as filed with the Commission by Northern States on September 27, 1994, and supplemented on October 11, 1994, would supersede earlier recommendations made by WDNR and the FWS, and includes the following:

(1) Northern States would be responsible for: (a) the one time purchase of the barrier net, floats, anchors and rigging; (b) the purchase of an additional spare barrier net; and (c) funding the installation and maintenance of the barrier net; and

(2) WDNR would be responsible for the annual deployment (or installation) and maintenance of the barrier net.

WDNR, in a letter filed October 14, 1994, concurred with this arrangement. As previously discussed, WDNR would also be responsible for evaluating the net's effectiveness and providing a report and recommendations by December 31, 2000.

Commission's staff agree with the provisions of the arrangement and recommend including these provisions as license requirements for the Hayward Project. Our recommendation is further discussed in sections VI., Developmental Resources, and VIII., Consistency with Fish and Wildlife Recommendations, of this FEA.

Finally, we recognized that multiple hydroelectric developments could cumulatively affect fisheries in the Saint Croix Basin by reducing aeration, limiting fish movements, and through impingement and entrainment of fish. Hydropower development could also cumulatively affect the reproductive potential of species in the basin by limiting access to spawning sites or by decreasing the suitability of those sites. Further, operating the Hayward Project may affect fisheries in the Namekagon River by altering the quality of the habitat in the project's bypassed reach.

The licensee would minimize potential cumulative effects on fisheries by ● operating the project in a run-of-river mode, ● maintaining a continuous minimum flow through the bypassed reach, ● implementing a stream habitat restoration program for the bypassed reach, and ● maintaining the existing 1.5-inch trashrack. In addition, the licensee may add fish passage facilities and/or additional fish protection measures to the project in the future to enhance the fishery resources in the Saint Croix River Basin. Incorporating these protection and enhancement measures would minimize the project's contribution to cumulative effects on the recreational fisheries in the Saint Croix River Basin.

<u>d. Lake sturgeon restoration</u>: The lake sturgeon (<u>Acipenser fulvescens</u>) -- endangered in Wisconsin -- is a state protected species. In commenting on the Hayward Project's Initial Consultation Package, WDNR and the NPS recommended that Northern States consider measures to reintroduce lake sturgeon to the portion of the Namekagon River in the vicinity of the project site. WDNR views stocking as the best possible choice to reestablish the species to this section of the river.

Northern States, as a result of its efforts to relicense the downstream Trego Project, has committed funds ($5,000) to WDNR for the purpose of sturgeon egg gathering, hatchery rearing, and reintroduction of juvenile fish to the segment of the Namekagon River between the Hayward and the Trego Projects. WDNR concluded that Northern States' commitment to restore lake sturgeon above the Trego dam would satisfy its concern for lake sturgeon on the Namekagon River, and recommended no additional measures, relative to relicensing the Hayward Project.

<u>Our recommendation</u>: In the environmental assessment prepared for the Trego Project we recommended that Northern States provide WDNR with funds ($5,000) to restore lake sturgeon to the Namekagon River upstream of the Trego Project. The NPS

recommends that Northern States closely coordinate with the NPS Saint Croix National Scenic Riverway office concerning any plan to stock lake sturgeon in the Namekagon River. Because of the Namekagon River's National Scenic Riverway designation, we expect that any plan to reintroduce lake sturgeon in the Namekagon River would be a coordinated effort among the WDNR, the NPS, the FWS, and Northern States.

Unavoidable adverse impacts: Continued operation of the Hayward Project would cause a minor unavoidable long-term loss of resident fishes due to turbine-induced mortality.

3. Terrestrial Resources

Affected environment: The project area is situated within the Hemlock-White Pine Northern Hardwood Region as described by Braun (1950). Generally, this is a region of low relief whose topographic features are almost entirely controlled by glaciation. The vegetation is characterized by the prevalence of pines and the occasional occurrence of hardwood communities. According to Shelford (1963), deer, wolf, turkey, mountain lion, gray squirrel, bobcat, and others that currently occur in the region were also present under pristine conditions.

Logging throughout the region began in the 1830's. Initially pines were cut, which were moved via the river to the sawmills located from Saint Croix Falls to Stillwater. The pine logging era ended about 1914, but hardwoods continued to be cut for many years after. This activity has produced the appearance of the river and surrounding areas as it is today (National Park Service, 1984).

Today, about 75 percent of the shoreline around Hayward Lake is developed mainly by private homes. The shoreline is gently sloping and generally only 2-3 feet above the water's surface. Included along the shore at scattered locations are small wetlands. Most of the land surrounding the City of Hayward and the project lands and waters remains undeveloped and is forested.

Although the land adjacent to Hayward Lake is moderately developed, much of the shoreline remains under vegetative cover. Many of the shoreline residences have mowed lawns that extend to near the lake's high water mark. The lawns generally contain a mixture of trees that are native to the area, such as white birch, red maple, white, jack and red pine, and occasional black ash, green ash, black willow, cottonwood and oaks. The undeveloped shoreline areas are mostly small wetlands. Northern States' land holdings at the site are limited to about 23 acres near the dam, plus flowage rights to the lake and adjacent lands. The 23 acres under Northern States control is mostly undeveloped river frontage downstream from the dam that is covered with small trees and shrubs as described above.

The wetlands in the Hayward project area are mostly contiguous with the lake and the river 1-mile downstream of the project dam and 1-mile upstream of the lake. Northern States identified a total of 33 wetlands, with five larger than five acres. The majority of these wetlands are in the aquatic bed and emergent/wet meadow class[5], but the scrub/shrub type is also present. The most abundant submersed plant species are wild celery followed by elodea. The floating yellow water lily and sweet water lily were also prevalent in several of the shallow backwaters. Cattail, bulrush, and arrowhead are the most abundant emergent plants. Typical scrub/shrub species are tag alder, willows, and small aspen.

The predominate residential-developed character of the Hayward Lake shoreline minimizes the diversity of wildlife species that inhabit the project area. Those species that are present must tolerate human activities. Common mammals include the white-tailed deer, red fox, striped skunk, woodchuck, grey and red squirrels, cottontail rabbit, chipmunk, and a variety of small rodents. Furbearers common along the shores of the lake and river are the muskrat, mink, weasel, raccoon, beaver, and otter. The most common resident birds are the black-capped chickadee, blue jay, common crow, nuthatch, tufted titmouse, cardinal, goldfinch, and a variety of woodpeckers. Typical waterfowl that utilize the lake, river, and wetland areas include the mallard duck, wood duck, common loon, mergansers, and Canada goose. Also, a variety of hawks and owls feed and nest throughout the project area.

Environmental impacts and recommendations: Since no new construction or changes in operation are proposed, continued operation of the Hayward Project would have little or no effect on vegetation and wildlife resources around the project reservoir and along the Namekagon River, both upstream of the lake and downstream of the dam. Further, continued operation would not contribute toward cumulative adverse effects on vegetation and wildlife resources along the Namekagon River corridor.

a. Wildlife management on project lands: The FWS recommended that Northern States retain the 23 acres of project lands, and that any proposal to withdraw this land be reviewed by the agencies, prior to final approval by the Commission. Also, the FWS recommends the following:

● that Northern States allow public access on project lands, except those lands that are environmentally sensitive, such as areas that provide habitat for federal and state threatened and endangered species, or that are clearly dangerous to the public;

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[5] Wetland nomenclature follows Cowardin, et. al. (1979).

- that Northern States routinely consult the WDNR wildlife managers regarding decisions affecting wildlife management on project lands, and cooperate with the managers in conducting wildlife surveys of project lands; and

- that if any lands having the potential for wildlife management be made an additional part of the project boundary, Northern States consult with the agencies and develop a wildlife management plan for those lands.

The FWS says that the project lands and waters provide valuable habitat for fish and wildlife, and are of tremendous value to the public for recreational use. Additionally, the FWS concurs with Northern States' policy to encourage recreational use of all project lands except where restricted access is necessary for safety reasons or to protect environmentally sensitive habitat.

Our recommendation: The project lands and waters, except for those areas in the immediate vicinity of project works, are currently maintained as fish and wildlife habitat and are open to the public. Any withdrawal of, modification, or addition to project lands and waters would require approval of the Commission by an amendment of the license. In accordance with the Commission's regulations and procedures, an amendment of license would require Northern States to consult with the WDNR, the FWS, and other appropriate agencies prior to filing any license amendment application with the Commission.

In the past, Northern States has voluntarily consulted and cooperated with the WDNR regarding project area fish and wildlife resources, including biological surveys at the Hayward Project. For example, the various fishery surveys that WDNR conducted in Hayward Lake during the 1980's and in 1991 were in cooperation with Northern States (*see fishery resources, section V.C.2.*).

Northern States is likely to continue voluntary consultation and cooperation in the future regarding the management of project lands. Requiring Northern States to maintain project lands as recommended by the FWS would, however, add an extra measure of protection for wildlife and ensure public access to project lands. Therefore, we recommend requiring the licensee to (1) maintain the 23 acres of project lands as wildlife habitat with public access where permitted (i.e., areas that do not present safety hazards or are environmentally sensitive), (2) routinely consult with the WDNR wildlife managers regarding decisions affecting wildlife management on these lands, and (3) consult with the appropriate agencies on additions to project lands.

b. Wetland protection: In order to protect wetlands, the FWS and the NPS recommended that Northern States cooperate with the agencies in implementing a plan to control the spread of purple loosestrife (Lythrum salicaria) at the project, when deemed appropriate by the agencies. The WDNR recommends that Northern States annually survey the project area for purple loosestrife and eradicate any plants located within the project boundary using the best management practices.

The agencies explain that purple loosestrife is a wetland invading plant that out-competes many other valuable wetland plants and can dominate the wetland in a few years. It has little food value for wildlife, and its infestation of valuable wetlands is extremely undesirable and harmful. The WDNR states that because purple loosestrife thrives in wetlands, especially those recently disturbed, water fluctuations can actually enhance the spread of loosestrife. Therefore, WDNR recommends monitoring, particularly after periods of extended drawdown.

Northern States agreed to monitor the project area for the presence of purple loosestrife during normal operations and to report its findings to the agencies. They don't agree with any requirement to implement a control plan for the species, but they would voluntarily help to control the species. Northern States believes that the control responsibility should reside with the WDNR or another government agency that can develop a consistent, centralized approach for handling the problem. Further, Northern States indicates that because the project is surrounded by private lands where access may not always be granted, eradication of purple loosestrife within the project boundary could be impossible.

Purple loosestrife is currently found throughout the project area and is likely spreading. Its continued spread could eventually displace the valuable wetland species within the emergent and shrub/scrub wetlands of the project area. Such a condition would significantly reduce the ecological value of these wetlands.

According to Malecki, et. al. (1993), no effective method is available to control purple loosestrife, except where it occurs in small localized stands and can be intensively managed. In such isolated areas, uprooting the plant by hand and ensuring the removal of all vegetative parts can eliminate the plant. Other control techniques that have been used include water-level manipulation, mowing or cutting, burning, and herbicide application. Although these controls can eliminate small and young stands, they are costly, require continued long-term maintenance, and, in the case of herbicides, are nonselective and environmentally degrading. Current efforts to control purple loosestrife (Malecki, et. al., 1993), center on importation of host-specific phytophagous (plant eating) insects from the plant's native range in Europe. While the results of these insect-control studies are encouraging, additional studies are needed before an acceptable biological control technique is available.

Our recommendation: The wetlands in the project area should be protected against the continued spread of purple loosestrife. Measures should, therefore, be taken to control the plant's current levels and future spread. However, because of its widespread distribution throughout the project region and the state, its continual spread, and the aforementioned control problems, the responsibility for directing control techniques should reside with the WDNR, with the cooperation of Northern States. Therefore, we recommend that the licensee develop and implement a plan to monitor purple loosestrife at the project and provide the monitoring results to the WDNR, the NPS, and the FWS. Further, the licensee should cooperate with the WDNR, the NPS, and the FWS to control and, if possible, eliminate purple loosestrife from project lands.

c. Biological survey: The NPS recommends that Northern States survey the Namekagon flowage to identify dragonfly, turtles, and salamanders; and determine the potential impacts of the existing mode of operation on each of these species, including the bald eagle. Further, the NPS requests that this survey include a list of plant and animal species found around the flowage. The NPS explains that to implement effective management of the resource, a full description of plants and animals present and the potential impacts of fluctuation on species of concern is needed.

Our recommendation: Northern States proposes to continue operating the Hayward Project in a run-of-river mode with no additional construction activities. Continuing the present operational mode would maintain the existing biota found in and adjacent to the reservoir and the Namekagon River immediately upstream and downstream of the reservoir. Further, we are recommending additional enhancement and protective measures such as monitoring contaminants, continued run-of-river mode of operation, stable impoundment water level operation, bypassed reach minimum flow releases, and restoration of the bypassed reach river channel (*see water and fishery resources, sections V.C.1&2*).

The project area's existing biological resources are adequately protected and would be protected in the future with the additional measures that we recommend. Also, we recommend bald eagle enhancement and protective measures (*see threatened and endangered species, section V.C.4*).

We conclude that the proposed biological surveys and listings are not necessary in light of the enhancement measures we are requiring and in the absence of a specific identified need or concern. Therefore, we are not recommending that Northern

States conduct the recommended biological surveys and listings. This issue may be revisited in the future if a need is demonstrated.

d. Drawdown management plan: Historically, Northern States has not drawn down the project impoundment more than two feet. They also don't contemplate any future drawdowns associated with project facility maintenance. Prior to Northern States filing the license application, the WDNR suggested that Northern States may need to implement future drawdowns to control nuisance weed growth, promote the oxidation of fish spawning substrates, or repair any of the project facilities. Under any of these circumstances, future impoundment drawdowns could affect fishery, terrestrial, and recreational resources. Based on these concerns, Northern States proposes to cooperate with the WDNR and develop a drawdown management plan within one year of license issuance.

Subsequently, the WDNR developed a drawdown management plan for the Hayward Project and recommended including the plan in any license issuance. The WDNR indicated that they would only permit modifications to the plan upon WDNR and the FWS concurrence. Also, the WDNR recommends that if non-emergency drawdowns are undertaken, Northern States should not lower the pond level more than 6 inches per 24 hours, which should occur at a rate of 1 inch every 4 hours. The WDNR indicates that these ramping rates would minimize the amount of sediments transported downstream, protect fish and wildlife resources, and protect the soil stability of the shoreline.

Further, the WDNR recommended an interim managed drawdown on Lake Hayward to commence on October 15, 1995 with refill beginning on April 1, 1996 (i.e., a 5.5-month drawdown period). Under this drawdown, the reservoir would be drawn down 3 feet in accordance with the conditions of the WDNR's plan. If appreciable resource or recreational benefits result, the drawdown should be incorporated as a requirement of the license. Also, if the anticipated benefits do not accrue or if the drawdown is found to have unacceptable negative impacts, management-based drawdowns would be discontinued.

The FWS recommended that Northern States develop and implement a reservoir drawdown plan, including appropriate ramping rates. The NPS also recommended that Northern States coordinate the drawdown management plan with the WDNR, the FWS, and the NPS Saint Croix National Scenic Riverway office.

In response to the WDNR's drawdown management plan, Northern States indicated that they were agreeable to the plan except for three provisions: (1) sediment monitoring during drawdowns, (2) potential pre- and post-drawdown monitoring of sensitive biological resources, and (3) an experimental management-based

5.5-month-long drawdown. Northern States agreed to WDNR's recommended drawdown rate, but they request modifying the recommendation to allow for some flexibility. Specifically, they request wording any drawdown rate requirement such that a 6 inch per 24 hours drawdown rate occurs at about 1 inch every 4 hours.

We generally agree with WDNR's recommended drawdown management plan and believe it would help avoid potential adverse environmental effects, ensure sufficient coordination between the resource agencies, and provide an opportunity to enhance biological resources. In the DEA, staff stated its agreement with Northern States' objections with the three provisions specified above. However, because of the WDNR's DEA comments, Section 10(j) discussions, and further investigations on these issues, we have modified this position.

Sediment monitoring

Regarding sediment monitoring, we still maintain that because of the drawdown rate requirement, the resuspension of sediments in the flowage and the movement of sediments downstream would be minimized because of the drawdown rate requirement. However, since the WDNR indicated during Section 10(j) discussions that they knew of one contaminated site within the reservoir (i.e., 0.5 mile upstream of the dam), it would be prudent to conduct sediment monitoring during reservoir drawdown. Sediment monitoring should allow detection of any resuspended contaminated sediments from the known site or any unknown sites. If resuspension of contaminated sediments is found during monitoring, modifications to the drawdown plan could be made to further minimize or prevent such resuspension. For example, the reservoir drawdown rate could be reduced.

Monitoring of sensitive biological resources

Regarding monitoring of sensitive biological resources, an additional provision of WDNR's recommended drawdown plan would require Northern States to undertake reasonable alternatives to avoid any drawdown associated with project facility maintenance (e.g., the use of divers for inspection and coffer dams for construction projects). This requirement, as well as the drawdown rate requirement, would minimize any adverse effects to biological resources. However, while these drawdown requirements may minimize some adverse biological effects, the effects that may occur on other sensitive biological resources should be considered. For example, the drawdown rate may prevent stranding of fish in backwater areas and the drawdown period may produce the intended results of submersed aquatic plant control and sediment compaction, but other biological resources like reptiles, amphibians, and invertebrates that hibernate within the reservoir bottom could be adversely affected.

Another consideration of drawdown effects on biological resources relates to the area included within the drawdown zone. In general, the drawdown zone an aquatic bed wetland. Reduction or removal of the submerged aquatic vegetation within this zone would be an adverse wetland impact. The adverse effects on this wetland versus the intended benefits of the drawdown should also be considered prior to implementing any drawdown.

The implementation of a drawdown plan should also consider that the winter drawdown effects on some plant species vary. For example, Cook, et. al. (1986), found that elodea populations, also an abundant species in Hayward Reservoir, decreased, increased, and did not change in winter drawdowns on three different Wisconsin lakes.

Because of the potential multiple effects and variables involved in reservoir drawdowns, the drawdown plan should include a requirement to monitor sensitive biological resources during the drawdown. We believe that the responsibility of monitoring both sensitive biological resources and sediments is the responsibility of the WDNR. The WDNR agreed during Section 10(j) discussions that this monitoring is the WDNR's responsibility. Northern States should cooperate with the WDNR for monitoring sediments and sensitive biological resources during any management-based reservoir drawdown.

Drawdown duration

Concerning WDNR's recommended management-based drawdown, Northern States opposed a 5.5-month-long drawdown and suggested a drawdown of 30 days in late fall or early winter. Northern States indicated that a 5.5-month-long drawdown would significantly effect project economics and disrupt winter recreation events held on the frozen impoundment. They also indicate that requiring an impoundment drawdown over the winter would require modification to the existing powerhouse water inlet. Northern States implies that a 30-day-long drawdown in the late fall or early winter wouldn't require these powerhouse inlet modifications.

Although we agree that management-based drawdowns could benefit biological resources, we believe that a 5.5-month-long drawdown is too lengthy. This is especially true since the WDNR's recommended interim drawdown is an experimental approach to control aquatic plants. Because the environmental benefits of drawing-down the Hayward impoundment are not currently verified, Northern States' suggested that a 30-day-long drawdown is a more reasonable approach. Based on WDNR's response to the DEA and the Section 10(j) discussions, we agree that a 30-day-long drawdown approach is probably insufficient.

The WDNR says that both sediment compaction and aquatic plant reduction rely on exposing the littoral zone to subfreezing temperatures and desiccating conditions for extended periods. The WDNR does not state specifically what the extended period should be, but does indicate that it should be longer than 30 days. WDNR indicated that a 2 to 3 month-long period may be acceptable. Cooke, et. al. (1986), states that long periods of drying and freezing are needed (3 weeks or more) to kill plants such as Eurasian water milfoil.

We conclude that drawing the reservoir down for a period of 2 to 3 months beginning in the late fall (e.g., starting in November) would likely be sufficient to provide the drying and freezing needed to compact sediments and reduce aquatic plants. We recognize, however, that during some years the weather conditions may not be suitable to achieve the intended results. For example, heavy snows may fall during the first part of the drawdown period, which would tend to insulate the exposed reservoir bottom preventing sufficient drying and freezing. Therefore, because of the uncertainty of the drawdown period and appropriate climatic conditions, among other variables, the drawdown plan should incorporate provisions for modifications, or adaptive management.

Finally, we think it's reasonable to assume that Northern States couldn't precisely control the drawdown rate, and that a drawdown rate of <u>about</u> 1 inch every 4 hours is sufficient to minimize any adverse environmental effects.

<u>Our recommendation</u>: We recommend that the licensee develop and implement a final Hayward Lake drawdown management plan. The licensee should develop and implement the plan in consultation with the WDNR, the FWS, and the NPS Saint Croix National Scenic Riverway office. The licensee should develop the final plan based on the plan developed by the WDNR (letter to the Commission dated October 1, 1993), but modified to include: (1) provisions for implementing management-based drawdowns, where the need for and the depth, timing, and duration of such drawdowns are determined cooperatively with the WDNR, the FWS, and the NPS, and is based on documented fish and wildlife needs at the project; (2) a non-emergency drawdown ramping rate provision stipulating that the licensee wouldn't lower the pond level more than 6 inches per 24 hours, which would occur at a rate of about 1 inch every 4 hours; (3) a cooperative agreement between the licensee and WDNR to monitor sediments and sensitive biological resources during drawdowns; (4) a schedule for implementing any planned drawdowns; (5) a strategy to evaluate the effectiveness of the management-based drawdowns; (6) cost estimates for implementing any drawdowns; and (7) comments from the resource agencies on the final plan. Further, in lieu of an interim experimental drawdown as proposed in the WDNR's plan, the final plan should contain provisions for an initial test drawdown for a period of 5.5

months. The results of the initial test drawdown would be used to make modifications on any subsequent managed drawdowns (i.e., the final plan should incorporate provisions for adaptive management). The licensee should submit the final plan to the Commission for approval within one year after license issuance.

Finalizing and implementing the drawdown management plan for the Hayward flowage would ensure sufficient coordination between the resource agencies, provide an opportunity to enhance biological resources, and help avoid any negative environmental effects of unexpected drawdowns. The drawdown management plan would also help minimize any cumulative effects on the water quality in the Namekagon River by preventing the disturbance of any existing contaminated sediments at the project.

e. Long-term fish and wildlife protection and enhancement: For the conservation and development of fish and wildlife resources, the FWS recommends that Northern States construct, maintain, and operate, or arrange for the construction, operation, and maintenance of such reasonable facilities, and comply with such reasonable modifications of project structures and operation, as may be ordered by the Commission upon its own motion or upon the recommendation of the Interior, the FWS, or WDNR, after notice and opportunity for hearing. The FWS explains that this condition would provide for the unexpected resource problems or opportunities that may occur during the term of the license.

The WDNR requests that the subsequent license contain provisions for the Commission to reopen the license and consider amended terms and conditions should new information suggest the need. The WDNR states that because of the proximity of the Trego Project to the Hayward Project, any changes to the Trego Project should also trigger a review of the Hayward license.

In reply to WDNR's recommendation, Northern States indicates that it is opposed to such a reopener because of the uncertainty that they instill on long-term operations, planning, and investment recovery. Further, Northern States disagrees with linking the license provisions for the Trego and Hayward Projects since the two projects are separated by about 30 miles of free-flowing river and their operations are totally independent.

Our recommendation: We recognize that future fisheries and wildlife needs and management objectives cannot always be predicted at the time of license issuance. Therefore, the Commission provides for the option to require changes to projects upon its own motion and opportunity for hearing regardless of the reason for changes. Such provisions are included in the standard articles of all currently licensed projects.

Since the Hayward and Trego Projects are the only hydroelectric projects on the Namekagon River, we further recommend relicensing the Hayward Project with a license term ending concurrently with Trego[6]. Concurrent licensing terms would facilitate future environment review of these projects and their cumulative effects on the Namekagon River; a National Wild and Scenic River.

Unavoidable adverse impacts: None.

4. Threatened and Endangered Species

Affected environment: According to the FWS, the bald eagle (*Haliaeetus leucocephalus*), a federally listed threatened species in Wisconsin, forages along the Namekagon River but doesn't nest on project lands. The project is within a large area of land designated as "potentially suitable habitat" for the federally listed endangered gray wolf (*Canis lupus*), but because of the project's proximity to the City of Hayward, this species is not likely to occur on project lands. The peregrine falcon (*Falco peregrinus*), a federally listed endangered species, may be present in the project area, primarily during spring and fall migrations. Further, the lake sturgeon (*Acipenser fulvescens*), a candidate species (Category 2)[7] is found in low to moderate numbers in the Namekagon River both upstream and downstream of the Hayward project.

Environmental impacts and recommendations: According to the FWS, continued operation of the project wouldn't affect the bald eagle, gray wolf or peregrine falcon. We agree. The FWS makes no specific comments on the effect that continued operation of the project would have on the lake sturgeon. However, the NPS recommends that Northern States closely coordinate with the NPS Saint Croix National Scenic Riverway office on any plan to stock lake sturgeon in the Namekagon River. The lake sturgeon is discussed further in the Section V.C.2., Fishery Resources-Lake sturgeon restoration.

a. Bald eagle habitat protection and enhancement: Northern States proposes to follow WDNR's and the FWS's management guidelines for both the bald eagle and osprey, if future nests are constructed on company-owned lands.

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6 The Commission issued the license order for the Trego Project on June 2, 1994 (67 FERC ¶ 61,282).

7 A "Category 2" species is one for which information now in possession of the FWS indicates that proposing to list it as threatened or endangered is possibly appropriate, but conclusive data on biological vulnerability and threat are not currently available to support proposed rulemaking.

The FWS recommends that Northern States preserve all super canopy trees (e.g., white and red pine) that occur or that may develop in the future as available nesting sites for bald eagles. The FWS explains that since bald eagles commonly forage on lands and waters adjacent to or associated with the project area, the availability of several large white and red pine trees would provide potential nest sites.

The 23 acres of project lands provides potential nesting and perching habitat for bald eagles. The likelihood of eagles perching or nesting on these lands, however, is diminished by the size of trees (i.e., trees are generally small), presence of nearby development, and the abundance of undeveloped lands and waters surrounding the project area. Preserving such trees on project lands should require little effort or expense. The use of these trees for nesting by bald eagles would be beneficial to the population and should be encouraged.

Our recommendation: We recommend that the licensee preserve trees, such as white or red pines that presently exist on project lands or those that develop in the future, suitable for bald eagle perch and nest trees. Tree preservation should include those from 15 to 18 inches diameter breast height (DBH) within 200 feet of the reservoir or river shoreline, and those specimens less than 15 inches DBH that have the potential to attain this size. The licensee should also consider preserving other tree specimens that extend above the over-all tree canopy of the forest which are less than 15 inches DBH.

Further, we recommend allowing the licensee to remove felled or disease-damaged trees, which may affect public safety or project-related operation, after agency consultation. In order to provide protection for future bald eagle use in the project area, we also recommend that the licensee prepare a bald eagle monitoring and protection plan if eagles begin perching or nesting on project lands. Preserving suitable trees as potential nesting and perching trees on Northern States' project lands, would benefit both bald eagle and osprey management.

Unavoidable adverse impacts None.

5. Cultural Resources

Affected environment: The City of Hayward's origin and growth is linked to the first Hayward dam (1883) built by the Northwest Wisconsin Lumber Company. The lumber company used the impoundment to power the mill saws, move logs to the sawmill, and clean logs before milling. The lumber industry transformed the area into a booming logging center and by 1886 the project supplied the mill with electricity. Following a flood in 1907 the mill shut down and the dam was rebuilt the same year by the Edward Hines Lumber Company. The lumber industry began declining in Hayward by the early 1900s, and successive hydroelectric owners resurfaced and repaired the project facilities, altering their historic integrity.

Northern States evaluated the project facilities in 1990 to assess their eligibility for inclusion in the National Register of Historic Places (National Register). After reviewing the resulting documentation the Wisconsin State Historic Preservation Officer (SHPO) indicated that the project facilities are not eligible for inclusion in the National Register because of the substantial alterations (letter from Richard W. Dexter, Compliance Section Chief, Division of Historic Preservation, The State Historical Society of Wisconsin, Madison, Wisconsin, August 21, 1990).

Between 1976 and 1978, archaeological surveys were conducted along the Saint Croix and Namekagon Rivers as part of the formation of the Saint Croix Scenic Riverway. The three-phase surveys located 217 archaeological sites, and one of these sites is located in the Hayward Project area. The NPS revisited 33 of these sites between 1981-1983 in an effort to update existing information. The survey reports suggest that the Namekagon River saw its heaviest prehistoric use during the late Middle Woodland (about. 300 A.D.-1600s A.D.) to early Historic periods (about 1630s-1840s).

Northern States conducted an archeological survey at the Hayward Project, locating three known cultural resources sites (Van Dyke, 1991). No previously unidentified sites were discovered during the survey. Two of the cultural resource sites (47 Sy-29, 47 Sy-119) are not currently affected by project operation. However, the SHPO recommended monitoring site 47 Sy-29 every five years to detect any erosional activity (letter from Richard W. Dexter, Compliance Section Chief, Division of Historic Preservation, The State Historical Society of Wisconsin, Madison, Wisconsin, February 3, 1992).

Northern States evaluated the historic significance of the remaining site (47 Sy-121), which consists of submerged pilings in Lake Hayward from a railroad bridge. After reviewing the resulting archeological report, the SHPO determined that the site is not eligible for listing on the National Register due to a loss of site integrity (letter from Richard W. Dexter, Compliance Section Chief, Division of Historic Preservation, The State Historical Society of Wisconsin, Madison, Wisconsin, July 17, 1992).

Other unidentified archaeological sites from uses before the dam construction may presently exist in the sediments of Lake Hayward.

Environmental impacts and recommendations: Continued operation of the project could adversely affect known and undiscovered properties eligible for the National Register. These effects could result from: erosion along the impoundment shoreline, unscheduled ground-disturbing activities, or from any unscheduled impoundment drawdowns. To protect the cultural resources in the project area, Northern States consulted the SHPO and developed a draft programmatic agreement in 1992. However, a subsequent statewide programmatic agreement was developed for licensed hydroelectric projects in Wisconsin.

The Wisconsin Statewide Programmatic Agreement (Programmatic Agreement) was executed among the Commission, the Advisory Council on Historic Preservation, the Michigan SHPO, and the Wisconsin SHPO, on December 30, 1993. The Programmatic Agreement requires the licensee to develop a Historic Resource Management Plan (HRMP) within one year of license issuance. The HRMP would require the licensee to develop procedures to (1) monitor the project shoreline on a periodic basis, (2) identify historic properties which become accessible during periods of project impoundment drawdown or dewatering; and (3) ensure that an archaeological survey is conducted at any unscheduled ground-disturbing activity.

Our recommendation: We recommend that the licensee implement the Programmatic Agreement provisions to protect cultural resources at the Hayward Project. Implementing the Programmatic Agreement would ensure adequate protection of known and undiscovered historic properties in the project area. Based on Northern States' cultural resource research in the project area, it's unlikely that the continued operation of the Hayward Project would cumulatively affect cultural resources along the Namekagon River.

Unavoidable adverse impacts: None.

6. Recreation and Other Land and Water Uses

Affected environment: The Namekagon River is a unit of the National Park System as part of the Saint Croix National Scenic Riverway, and the river is also a component of the National Wild and Scenic Rivers System. The NPS has classified the 63.5-mile-long reach, which includes the entire Hayward Project, as a Scenic River Area (U.S. Department of the Interior, National Park Service, 1976). As a result of the "scenic" designation, the NPS restricts river shoreland developments within one quarter mile of the river.

The wilderness qualities along the Namekagon River have attracted canoeists and trout fishermen over the past century. Disturbances to the pristine character along the Namekagon River included dam construction, the logging industry, and the growth of the cities of Hayward and Trego. Both the Hayward and Trego dams obstructed uninterrupted canoe touring down the river, contributing to the cumulative effect on canoeing along the Namekagon River. Despite these disturbances, the river upstream and downstream of the Hayward Project retains many of the pre-impoundment qualities and continues to attract canoeists and fishermen. Other recreation pursuits following the Hayward dam's construction were oriented around the logging industry (i.e., logrolling, lumberjack expertise demonstrations).

In addition to canoeing and fishing, the project area currently provides a variety of public outdoor recreational opportunities, including swimming, sightseeing, cross-country skiing, snowshoeing, and snowmobiling. Due to the small size of the lake and its shallow weedy conditions, boating and water skiing is limited. Organized recreation activities which occur in the project area include an international cross-country skiing race (The American Berkebeiner), a world class snowmobile race (WinterFest), a lumberjack competition (World Lumberjack Championship), an off-road bicycle race (Chequamegon Fat Tire Festival), and a muskellunge fishing tournament (Muskie Festival).

Northern States provides a canoe portage around the east side of the dam and unimproved shoreline fishing areas downstream of the spillway. Portions of the canoe portage trail are steep, deteriorating due to erosion, and are overgrown with vegetation. An unimproved road leading to Northern States canoe put-in area also provides access; however, the road is steep and severely eroded. Other recreational facilities adjacent to the project impoundment include the City of Hayward's public park. The park provides a boat launch facility, a swimming area, restrooms, barrier-free fishing pier, and picnic areas. About 1/2 mile downstream of the Hayward dam, the WDNR provides river access including parking, picnic tables, benches, a wood dock, and garbage cans.

<u>Environmental impacts and recommendations</u>: To determine the adequacy of the existing public access facilities on Lake Hayward, Northern States conducted a recreational use survey in 1990. The Northwest Regional Planning Commission (NRPC) analyzed the survey results and conducted a recreation needs assessment. In the resulting report, the NRPC recommended improvements at Northern States canoe portage and at sites administered by the City of Hayward (Northern States Power Company, 1991(a), Appendix D). Northern States agreed to improve the canoe portage access as part of their proposed Remediation Plan (*see fishery resources section V.C.2.b*). Northern States indicated that they are finalizing the Remediation Plan in consultation with the WDNR and the NPS, and propose to do the work in 1994.

a. Barrier-free canoe portage access: Northern States' proposed canoe portage improvements include clearing overgrown vegetation along the portage trail, stabilizing the canoe put-in with rock riprap and timber structures, and soil erosion control measures. The erosion control measures include grading the steep areas along the trail, providing steps constructed of timbers, restricting vehicle access at the unimproved road by erecting a gate, diverting runoff away from the road, and seeding the area along the unimproved road. Stabilizing the shoreline bank would also enhance shoreline fishing opportunities below the dam.

The NPS recommends that Northern States: (1) stabilize the canoe portage trail to reduce existing erosion, (2) design the access to meet the needs of the disabled, (3) erect a gate restricting vehicular traffic at the unimproved road associated with the canoe portage, and (4) reestablishing the area along the portage trail and the unimproved road with native vegetation.

In support of their disabled access recommendation, The NPS indicated that Wilderness Inquiry, a commercial outfitter, currently provides extended canoe trips on the Namekagon River for individuals with disabilities. The NPS subsequently indicated that while the improvements should facilitate portage use by physically-challenged canoeists, it may not be reasonable to apply the Americans with Disabilities Act of 1990 (ADA) standards at this site.[8] The NPS recommends that Northern States consult with the NPS Saint Croix National Scenic Riverway office to remove the barriers to access for physically-challenged canoeists without destroying the primitive nature of the Namekagon River.

The WDNR recommends that Northern States cooperate with the WDNR and the NPS in implementing any plans to provide disabled access to the Namekagon River at the project. WDNR also recommends that Northern States consider the needs of the disabled in any recreational access upgrades or repairs.

In response to WDNR's recommendation, Northern States opposes constructing barrier-free access at the canoe portage. They believe barrier-free access isn't reasonable because of the steep ascending and descending slopes along the portage trail, the dangers associated with high flows through the spillway area, and the unlikelihood of any use of the facility. They also indicate that a serious problem with constructing any type of

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[8] "Reasonable or readily achievable" is defined as easily accomplishable and able to be carried out without much difficulty or expense (Architectural and Transportation Barriers Compliance Board, Federal Register, Volume 56, No. 144).

facility in the spillway channel is potential ice and debris damage and recurring maintenance needs.

Our recommendation: We agree that Northern States proposed canoe portage improvements would significantly improve the canoe access below the dam. Northern States' planned improvements should also consider measures to improve access for individuals with disabilities without destroying the primitive nature of the Namekagon River. The ADA requires Northern States to accommodate individuals with disabilities at their public facilities, where it's reasonable to do so.

Future recreational use among the disabled population would likely increase along the Namekagon River due to (1) the river's attraction as a unit of the National Park system, (2) commercial canoe outfitters providing wilderness experiences for the disabled, and (3) WDNR's statewide goal to provide recreation for disabled populations (Statewide Comprehensive Outdoor Recreation Plan, 1991).

Therefore, we recommend that the licensee implement the Remediation Plan in consultation with the WDNR and the NPS Saint Croix National Scenic Riverway office. The licensee should submit the final plan to the Commission for approval, including design drawings for any enhancement measures and schedules for installing the enhancement measures. Implementing the Remediation Plan includes measures consistent with the resource agencies' recommendation.

The canoe portage improvements would result in beneficial cumulative effects on recreation opportunities in the river basin. Specifically, the improvements would enhance canoe touring down the entire Namekagon River reach by providing a safe route around the project dam.

b. Recreation monitoring studies: The NPS recommends that Northern States invite the WDNR, the NPS, the FWS, and local agencies responsible for recreational facility planning, to meet every five years in order to review and address existing recreation and land management issues.

Our recommendation: The City of Hayward's public park, WDNR's river access, and Northern States proposed canoe portage improvements, would provide adequate access to both the project impoundment and tailwaters. Although these facilities should meet the projected recreational needs at the Hayward Project, recreational demands could require addition facilities over the term of the license. Therefore, the licensee should monitor recreational use at the project during the term of the license to ensure the adequacy of the recreation facilities.

Licensees are routinely required to file a Form 80 with the Commission every 6 years. This requires the licensee to monitor recreational use at the project throughout the term of the license. During the Form 80 data collection year, we also recommend that the licensee monitor the adequacy of the recreational facilities in the project area. The licensee should conduct these recreation monitoring studies in consultation with the WDNR, the NPS, the FWS, and local agencies responsible for recreational facility planning. Our recommended recreation monitoring studies would ensure the adequacy of recreation opportunities at the Hayward Project throughout the term of the license, as recommended by the NPS.

Unavoidable adverse impacts: None.

D. Project Retirement Effects

The project retirement alternative involves denial of the relicense application and surrender of the existing license with appropriate conditions. We consider project retirement to consist of the removal of generation equipment from the powerhouse and the electrical tie to the local power grid. Under this alternative the dam would remain in place and the Commission would seek an application for surrender of the project's original license. Under this scenario, Northern States would continue to maintain the project dam with a non-power license until a new owner assumed the responsibilities of the project facilities.

1. Geology and soils. Under the project retirement alternative, the surface levels of the impoundment would remain within the same range as those under the proposed run-of-river mode of operation. Retiring the project would not, therefore, increase the potential of significant shoreline erosion or stream sedimentation in the project area or below the dam. Also, no land-clearing or ground-disturbing activities would occur in connection with the retirement of the existing project development that would affect geological resources.

2. Water Resources.

a. Water quality: If the Hayward Project were to be retired, the flows in the Namekagon River downstream of the Hayward dam would be the same as flows under the proposed run-of-river operating mode. Flows would no longer, however, pass through the powerhouse but would pass over the dam spillway. Under the current operation, the project's hydraulic capacity is exceeded 46 percent of the time, so spillage already occurs frequently at the site. The additional turbulence that would accompany spillage over the dam may provide some minimal enhancement of DO levels in the river. Therefore, DO concentrations would probably be maintained at or above state of Wisconsin's water quality standards.

Under the project retirement alternative, Northern States would no longer minimize leakage through the use of a "cindering" process to seal holes between the stop-logs. Eliminating this practice would alleviate any potential of introducing contaminants that could affect ecological resources in the Namekagon River. The necessity for us to recommend that Northern States monitor the fly ash/cinders currently used at the project would no longer exist.

b. Project Operation: Under the project retirement alternative, flows in the Namekagon River downstream of the dam would be directly dependent on inflows to the impoundment. If the Hayward Project were retired, the impoundment elevation would be dependent on the crest of the outflow structure (elevation at about 1,187.4 feet). There would be no difference in the effects on the aquatic resources downstream of the dam when compared to the recommended and proposed run-of-river operating mode of the project.

c. Gaging: Under the retirement alternative, no flow gaging would be necessary since outflow over the Hayward dam would correspond in volume and periodicity to natural inflow to the Hayward impoundment. Therefore, if this alternative were selected, we would not recommend that Northern States develop a plan to monitor the operation of the project. In addition, we would not recommend Northern States' proposed improvement and maintenance of the existing headwater staff gage with public visibility features.

3. Fishery Resources.

a. Stream habitat in the bypassed reach: The concentrated tailrace flows that are presently discharged from the project powerhouse would no longer occur. Flows currently used for power generation would spill over the dam instead of passing through the powerhouse. The resulting additional spillage released over the project spillway may result in some enhancement of aquatic habitat for fish and macroinvertebrates. This scenario would no longer necessitate a required minimum flow into the bypassed reach.

Under the retirement alternative, we would continue to recommend that Northern States implement their Remediation Plan (*for further discussion see section V.C.2.b*). Northern States developed this plan after spillway reconstruction subsequently degraded the aquatic habitat quality of the bypassed reach. We, therefore, conclude that implementing the proposed plan is necessary under the retirement alternative to restore aquatic habitat that was lost or damaged during Northern States' dam reconstruction.

b. Fish protection: If the Hayward Project was retired, the project operation would not result in turbine related mortality to fish in the Namekagon River. Also, any downstream fish movement would pass over the spillway and would not pass through the project turbines, as may occur now. Therefore, Northern States would not need to install a barrier net to minimize entrainment and turbine related mortality to fish. The absence of turbine mortality as a result of the discontinued operation, would benefit fisheries resources in the Namekagon River and therefore lessen any cumulative impacts to aquatic resources.

c. Fish passage: Under the retirement alternative, there may be no mechanism in place for the Commission to require Northern States to install, maintain, or operate fishways in the future. For the foreseeable future, the Hayward dam may continue to block the upstream passage of fish in the Namekagon River, and selection of the retirement alternative may preclude the installation of future fish passage facilities.

4. Terrestrial Resources.

a. Wildlife management on project lands: Under the retirement alternative, the 23 acres of project lands owned by Northern States would no longer be under Commission jurisdiction or protection, as described in section V.C.3. Therefore, Commission protection relating to the use of these lands will be lost. Northern States could be free to sub-divide the project lands that could led to increased human disturbance at the expense of terrestrial habitat for wildlife and botanical resources. Property conveyances could occur without Commission approval and agency comment, thus potentially reducing the amount of land available for recreation, wildlife management, and watershed protection.

In addition, there may be no Commission requirement for Northern States to (1) maintain the 23 acres of project lands as wildlife habitat with public access where permitted, (2) routinely consult with the WDNR wildlife managers regarding decisions affecting wildlife management on these lands, and (3) consult with the appropriate agencies on additions to project lands. Wildlife habitat within the 23 acres of project lands would be subject to any state or federal law governing the usage of private lands.

b. Wetland protection: If the project were retired, the project impoundment would remain in place and impoundment surface levels would remain within the same range as presently experienced. While flows currently used for power generation would spill over the dam, the same volume and periodicity of flows that now occur downstream of the project would continue after project retirement. Therefore, we expect that the existing riparian vegetation and wetland resources along the impoundment shoreline and downstream of the project dam would remain unchanged.

We would not recommend requiring Northern States to develop and implement a plan to monitor purple loosestrife at the project. Nor would we recommend requiring Northern States to cooperate with the resource agencies to control and eliminate purple loosestrife from project lands. Without a plan to monitor purple loosestrife, the continued spread of this exotic species may go undetected and could displace valuable wetland species in the project area.

c. Drawdown management plan: Northern States' current ability to drawdown the project impoundment is dependent on the powerhouse intake. Since the overflow spillway does not have any gates, it would no longer be possible to drawdown the project under the project retirement alternative. Surface levels of the impoundment would remain as those under the proposed run-of-river operating mode. Therefore, we would no longer recommend that Northern States develop and implement a final drawdown management plan under the retirement alternative. Any potential biological resource benefits associated with management-based drawdowns would not occur without the provision for a drawdown management plan (*for further discussion see section V.C.3.d*).

5. Threatened and Endangered Species. Under the retirement alternative, there may be no Commission requirement to implement the bald eagle protection measures. These measures would include preserving suitable trees as potential nesting and perching trees on project lands. In addition, if the 23 acres of land were subdivided, as might occur if the lands were removed from the Commission's jurisdiction, increased human disturbance could result in a loss of suitable bald eagle habitat.

6. Cultural Resources. The Hayward Project facilities are not eligible for inclusion in the National Register and project retirement on the 23 acres of land within the project boundary wouldn't affect or threaten any known historic facility. Project retirement could, however, have an adverse effect on the known archaeological site located along the impoundment perimeter due to future erosional activity. Also, future ground-disturbing activities (i.e. logging) or bank erosion along the shoreline of the impoundment could affect undiscovered National Register-eligible properties in the project area. The licensing alternative's Programmatic Agreement, which includes contingency provisions to cover such eventualities, would not be in effect under a project retirement situation.

Transferring title of the project could result in an effect on the known archeological site that could diminish the properties' historic values. There are no assurances that the project would be transferred to an entity that would monitor erosional activity at this archaeological site and continue to preserve its integrity. Including adequate restrictions or conditions in the transfer would ensure preservation of this particular property. If the Commission determined that the project should be retired, we would consult with Northern States, the Advisory Council, and the Wisconsin SHPO to seek ways to avoid or reduce the effects on historic properties.

Although we would seek ways to avoid or reduce adverse effects to known cultural resources within the Hayward Project boundary as a condition to project retirement, there is no guarantee that we would be successful. Further, previously undiscovered National Register-eligible properties could be affected in the future, through ground-disturbing activities or as a result of bank erosion along the shoreline of the impoundment.

7. Recreation and Other Land Uses. Under the retirement alternative, Northern States would not be required to maintain the project lands for recreational access or maintain the existing canoe portage. Also, Northern States could enter into lease agreements or land sales contracts, including sub-division of the 23 acres of project lands. The recreational access currently provided on these lands may not be maintained and may be closed to the public, resulting in a loss recreational opportunities in the region. Northern States would, however, maintain the project dam until another party assumed its responsibility; ensuring that Northern States maintains the project facilities would protect the recreational opportunities afforded by the impoundment (*see section V.C.6, for further discussion on the Lake Hayward's recreational importance*).

In addition, we would no longer require Northern States to monitor recreation use at the project to ensure the adequacy of recreational opportunities at the Hayward Project throughout the term of a new license.

We would recommend, as a condition of retirement, that Northern States repair existing erosion damage at the canoe portage as proposed under their Remediation Plan (*these measures are discussed in section V.C.6.a*). While we would recommend including adequate conditions to ensure that Northern States enhance the existing canoe portage by implementing the Remediation Plan, there may be no provisions for Northern States to maintain the portage.

8. Aesthetics. Project retirement would not involve any immediate, visible changes in project lands or structures. However, the well-maintained appearance of the project powerhouse, dam, and surrounding grounds may become impaired by the neglect that might result after retirement. Also, some aesthetic enhancement would occur as a result of increased

spillage over the dam. The incidence of spillage would increase from about 46 percent to 100 percent of the time, and the amount of spillage would increase by 120 to 178 cubic feet per second -- the hydraulic range of the existing project turbine.

Adverse effects could occur to the Namekagon River's scenic designation, under the Wild and Scenic Rivers Act, if the project lands were no longer protected from land disturbance or construction.

9. Socioeconomics. Lake Hayward is important to the city of Hayward's economy; Lake Hayward is an integral part of the city's tourism industry and about 25 percent of the city's tax base is lake-front property (letter from Lucy Gunther, Clerk-Treasurer, City of Hayward, Wisconsin, February 17, 1995). Under the project retirement alternative, Northern States would continue to maintain the Hayward impoundment until a new owner or party assumed responsibility of the project facilities. Project retirement, therefore, wouldn't result in significant impacts on employment, business, or infrastructure in the project area. Also, project retirement wouldn't result in any major construction activities that would affect the local economy. Some loss of tax revenues would probably result from retirement of the project's energy generation.

E. No-Action Alternative

The Hayward Hydroelectric Project is constructed and operating. Under the no-action alternative, the project would continue to operate under the terms and conditions of the existing license. No changes to the existing physical, biological, or cultural components would occur in the project area. Also, we wouldn't require Northern States to implement any new environmental protection or enhancement measures.

VI. DEVELOPMENTAL RESOURCES

In this section, we analyze the project's use of the water resources of the Namekagon River for hydropower purposes, give our estimate of the economic benefits of the proposed project, and look at the effects of various environmental enhancement measures on the project's benefits and costs. We also estimate the cost of retiring the project.

A. Power and Economic Benefits

A project would be economically beneficial, so long as it would cost less than the currently available alternative power (energy and capacity). In view of the changing economics in the electric industry, and the fact that project economics is one of the many public interest factors the Commission considers in project licensing, the Commission is changing its approach to evaluating the economics of both new and existing hydroelectric projects. We no longer will employ an analysis that assumes alternative fossil fuel and other costs escalated steadily over the term of the license.[9]

In the case of the Hayward Project, Northern States has proposed no new capacity or unit upgrading. Consequently, the costs of the project operation would include carrying costs on the net investment, relicensing costs, any planned dam repair costs, operation and maintenance (O&M) costs, and the administrative and general (A&G) costs.

We made an estimate of the power value based on the average cost of alternative fossil fuel for utilities (plus variable O&M) in the East North Central Census Region, as published by the Energy Information Administration (EIA) of the Department of Energy.[10] We extrapolated the fossil fuel costs to the year 1995 at the rates of real escalation and inflation developed by EIA. Accordingly, we estimate the value of fossil fuel plus variable O&M would be about 17.6 mills per kWh in 1995.

We derived the alternative capacity value based on installing a state-of-the-art combined cycle plant plus its associated fixed O&M. We obtained a price quote from a large equipment manufacturer for a combined cycle unit and used a fixed charge rate of 14 percent in our evaluation. As a result, we estimate the value of alternative capacity plus fixed O&M would be about $109.33 per kW-year for a project coming on line in 1995, the base year of our analysis. We applied this value to the average (or creditable) capacity of the Hayward Project.

Northern States is a utility which uses all of the project power to serve its power system and its customers in portions of

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9 See Mead Corporation, Publishing Paper Division, 72 FERC, ¶ 61,027 (July 13, 1995).

10 Our estimate of the cost of alternative energy is based on the projected cost of energy generation in fossil-fueled steam electric plants in the East North Central Census Region of the country. Our estimate of the amount of fuel that would be displaced by the hydroelectric generation is based on the fuel consumption of a steam electric plant, operating at a heatrate of 10,600 Btu/kWh. We estimate the cost of fuel based on the Energy Information Administration's reference-case estimate of average real fossil fuel costs for electric utilities, shown on Table 13 of its February 1995 publication Supplement to the Annual Energy Outlook 1995, and on its reference-case projections of general escalation as shown by the GDP implicit price deflator indices on Table A19 of the same publication.

Wisconsin, Michigan, Minnesota, North Dakota, and South Dakota. It plans to continue this policy in the future.

In its September 23 and October 17, 1994 letters, Northern States provided us several items of cost information which were not available before issuing the DEA. Among the data that Northern States provided were the undepreciated net value of the project, the project relicensing costs to date, costs of dike stabilization work planned for October 1994, and its average annual O&M costs for a recent 21-year period.

In our 30-year study, we have taken the costs provided by Northern States, adjusted them to 1995 dollars, and amortized them over 20 years. This includes Northern States' O&M costs. In all of our studies we assumed there would be no escalation for any of the costs or power values beyond 1995, the base line year for our analyses. The results of these analyses are shown in Table 2 below, along with value of project power.

Table 2. Summary of the staff's estimate of benefits and costs for the Hayward Project **without** enhancement costs, in 1995 dollars (Source: staff).

Item	Annual Value	Annual Unit Value
Power value		
Alternative cost of power for utilities (1.45 gigawatt-hours gen.)	$43,600	30.1 mills
Project costs		
Undepreciated project debt	$18,600	12.8 Mills
Relicensing costs to date	$7,300	5.0 mills
Dike stabilization costs planned for October 1994	$4,600	3.2 mills
Annual O&M costs	$55,300	38.1 mills
SUBTOTAL PROJECT COSTS	$85,800	59.1 mills
NET ANNUAL BENEFITS OF PROJECT (without enhancement costs)	-$42,200	-29.1 mills

In summary, our economic analyses show that the project power costs are significantly more than the 1995 alternative power value (exceeding it by 97 percent) **without** consideration of any of the environmental enhancements listed in Table 3.

B. Economic and Power Reduction Costs of Various Enhancement Measures

The agencies recommended that the Hayward Project make an 8-cfs minimum flow release from the spillway into the bypassed reach of the Namekagon River. Northern States did not propose such a release but has agreed to make the release starting in 1994. The minimum flow release would reduce the project generation from 1.45 gigawatt-hours (GWh) to about 1.42 GWh, which amounts to a loss of 0.03 GWh or 30,000 kWh. We further estimate than an 8-cfs minimum flow release would reduce the project's annualized benefits by about $1,000 annually.

The FWS and WDNR recommended that Northern States install a seasonal barrier net to protect fish from turbine entrainment. In a letter dated November 16, 1993, Northern States developed a cost estimate for installing such a fish net annually. Northern States' original cost estimate included a net system cost; travel time, labor, and per diem costs; SCUBA diver expenses; and vehicle mileage charges. During the Section 10(j) telephone conference, WDNR agreed to install and maintain the barrier net seasonally if Northern States would reimburse it for the costs.

Northern States submitted a revised cost estimate on September 23, 1994, containing costs for annual deployment of the net by WDNR personnel, the cost for a one-time purchase of a barrier net, and the cost for a spare net. We used Northern States' revised cost estimate, adjusted it to 1995 dollars, and amortized the fish barrier net costs over a 20-year period. The results of our analysis are shown in Table 3 below.

Northern States provided a cost estimate for restoring the bypassed reach and improving the canoe portage at the Hayward Project, as proposed in their Remediation Plan. The estimate included costs for a deflector wall in the spillway channel and stabilization of an unimproved road for the portage facility. We amortized Northern States' cost estimate over a 20-year period in an independent analysis (see Table 3).

In its September 23, 1994, letter, Northern States provided a cost for their proposed headwater chart recorder. We also amortized this cost over a 20-year period and included it in Table 3.

The FWS and WDNR recommended that Northern States install a USGS-type stream gage at the Hayward Project if the present flow calibration system doesn't provide sufficient accurate data in

Table 3. Summary of possible enhancement costs for the Hayward Project, annualized by the staff in 1995 dollars (Source: staff).

	Item	Annual Cost	Unit Cost
1)	8-cfs minimum flow release	$1,000	0.7 mills**
2)	Seasonal barrier net	$2,200	1.5 mills**
3)	Bypassed Restoration & Canoe portage improvements (Remediation Plan)	$1,100	0.8 mills**
4)	Headwater chart recorder	$500	0.3 mills**
5)	USGS-type stream gage - installation and operation	$12,000	8.3 mills
6)	Installation of state-of-the-art headwater & tailwater monitoring equipment	$6,400	4.4 mills
7)	One full-time operator[1]	$30,700	21.2 mills
or			
	Installation of equipment for automatic operation	$47,900	33.0 mills
8)	Drawdown of 3 feet for 5.5 months[2]	$1,000	0.7 mills**
or			
	Drawdown of 3 feet for 3 months[3]	$600	0.4 mills
9)	Recalibrate turbine rating curve once every 2 years (annual cost)	$1,100	0.8 mills
Cumulative Cost Range		$55,600 to $73,200	38.4 mills to 50.5 mills

** Indicates a staff recommendation.

[1]A single operator would be on duty nearly 24 percent of the time, which means Northern States would have to employ at least four operators to have the project manned 24 hours per day, seven days a week. The cost for employing a crew of four operators would cost four times this amount.

[2]Assuming a drawdown once every 5 years at a cost of $4,900 per drawdown, this would amount to a cost of about $1,000 on an annual basis.

[3]Assuming a drawdown once every 5 years at a cost of $2,800 per drawdown, this would amount to a cost of about $600 on an annual basis.

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the future. We obtained a cost from the USGS for installing a stream gage, operating that gage, and providing telemetry for the gage. We assumed the operational costs would not escalate beyond 1995. We amortized those costs and have shown our results in Table 3.

The FWS recommended additional continuous recording gages as part of their operational compliance plan recommendation. Our estimate for installing state-of-the-art headwater and tailwater monitoring and recording equipment, amortized over a 20-year period is also included in Table 3.

The FWS and WDNR recommended fairly close tolerances for operating the project reservoir (operating range of ±0.25 feet). Currently the turbine wicket gates are set manually by an operator stationed at the Trego Project which is about 45 minutes travel time away. We developed a cost estimate for Northern States to employ one (and only one) full-time operator for purpose of operating the project within the tolerances requested by the agencies. We assumed the one operator would be on duty 40 hours per week; nearly 24 percent of the time, with no one on duty the remaining 76 percent of the time. Our annualized cost estimate for employing a single station operator is shown in Table 3.

An alternative to employing a full-time operator at the Hayward Project is installing equipment so that the project would operate automatically by remote control. A major equipment manufacturer informed us that automatic control equipment for the Hayward Project would cost about $300,000 in 1994 dollars. We amortized this amount over a 20-year period and included the results in Table 3.

During the Section 10(j) conference telephone call on September 15, 1994, the WDNR indicated they could accept the 0.5-foot band of reservoir fluctuation, so long as Northern States would not use the reservoir for peaking purposes. We consider the issue resolved but have listed the costs for remedying the situation in Table 3; specifically, we have listed the costs for employing a full time operator and for installing equipment for automatic project operation.

The WDNR has requested a 5.5-month reservoir drawdown of 3 feet once every 4 or 5 years. Northern States objects to such a recommendation and estimated that the Hayward Project would lose 217,800 kWh of generation per drawdown. We made an independent analysis and estimate the project would lose about 160,000 kWh of generation per drawdown, which is lower than Northern States' estimate. We estimate the lost power would equate to about $4,900, based on our generation loss estimate, and have included this in Table 3. We point out that this loss is per each 5.5-

month drawdown occurrence and should be divided by the frequency of the drawdown to obtain the annual loss.

The average head at the Hayward Project site is 17 feet. Operating a turbine above or below its design head can cause cavitation damage to the turbine runner, as well as other operational problems. Neither Northern States nor the staff has addressed possible degradation effects on the turbine runner and other equipment by operating the project at a head of 14 feet for 5.5 months.

Alternatively, the staff looked at the impacts on project economics of a 3-month reservoir drawdown of 3 feet on a periodic basis. We estimate that the Hayward Project would lose about 90,000 kWh of generation per drawdown, which equates to about $2,800 per occurrence.

Finally, the agencies recommended that Northern States create a flow rating curve for the project and recalibrate it every 2 years. We obtained a cost from the USGS for calibrating a streamflow rating curve, annualized it over the life of the project, and included it in Table 3.

The costs in Table 3 were developed on the same basis as those in Table 2. Hence, any of these costs can be subtracted individually or collectively from the net project benefits shown in Table 2 to determine the approximate impact on project net annual benefits.

C. Economic Effects of Project Retirement

Since the annualized cost of continued operation of the project would be greater than the cost of other generation resources, we examined the economic effects of project retirement. The net benefits under the project retirement alternative (Shown in Table 4) would include the carrying costs of the undepreciated debt, relicensing costs to date, dike stabilization costs to make the decommissioned project safe, and annual dam maintenance costs.

D. Atmospheric Pollution Resulting from Project Retirement

Currently, more than forty percent of Northern States' energy requirements are satisfied by coal-fired, steam-electric generating facilities. As a result, energy to replace the 1,448,000 kWh of annual generation from the Hayward Project would probably come from coal-fired generation.

We have made estimates of the amount of coal necessary if the 1,448,000 kWh of electric energy were generated in a coal-fired steam-electric plant. We have also made estimates of the amounts of pollutants---oxides of sulfur, oxides of nitrogen,

Table 4. Summary of the staff's estimate of annualized benefits and costs for the Hayward Project retirement alternative **without** dam or powerhouse removal and **without** enhancement costs, in 1995 dollars (Source: staff).

Item	Annual Value
Power value	
Alternative cost of power for utilities (for zero gen.)	$ 0
Project costs	
Undepreciated project debt	$18,600
Relicensing costs to date	$7,300
Dike stabilization costs planned for October 1994	$4,600
Annual O&M costs[1]	$30,000
SUBTOTAL PROJECT COSTS	$60,500
NET ANNUAL BENEFITS OF PROJECT RETIREMENT	-$60,500

[1] We assume the annual O&M expense for the dam and associated works would amount to $30,000 annually, without escalation.

carbon monoxide, carbon dioxide, and particulate matter--- produced by burning that coal. In our analyses we assumed that the coal burned would contain 1.0 percent sulfur and the powerplants would not have state-of-the-art emission control systems. Table 5 shows the results of our analyses.

Carbon dioxide is considered to be a prime contributor to global warming, and the oxides of nitrogen and sulfur are considered to be prime contributors to the production of acid rain.

The recently enacted Clean Air Act mandates control of the fraction of the oxides of sulfur and nitrogen produced by combustion which can be released to the atmosphere. State-of-the-art pollution control technology is capable of removing about 95 percent of the oxides of sulfur and about 60 percent of the oxides of nitrogen from the flue gases produced by the combustion of coal by utility companies.

Removing the oxides of sulfur and nitrogen from the flue gas increases the cost of generating electricity. We have made

Table 5. Amounts of coal, resulting pollutants, and costs for pollutant removal, necessary to produce equivalent amounts of generation from a coal-fired steam-electric plant annually (Source: staff).

Item	Amounts
Pulverized Bituminous Coal (tons)	610.
Oxides of Sulfur (tons)	12.
Oxides of Nitrogen (tons)	5.
Carbon Monoxide (tons)	0.3
Carbon Dioxide (tons)	1,400.
Particulates (tons)	36.
Removal Costs for Oxides of Sulfur	$5,600.
Removal Costs for Oxides of Nitrogen	$1,300.

estimates of costs to utility companies for removing these oxides, assuming that the utility were to generate equivalent amounts of power that would be produced by the Hayward Project. These costs are also shown in Table 5. The removal costs for the oxides of nitrogen can vary widely; consequently, we used a midpoint cost above in our analysis.

The agencies have recommended that Northern States make a minimum flow release of 8 cfs from the spillway. Such a release would reduce the project generation slightly. Northern States would have to replace that small loss of generation at Hayward from a fossil-fueled steam-electric plant, which would in turn cause additional power plant emissions to be released into the atmosphere. However, we consider the slight increase in emissions to be insignificant. We conclude that continued operation of the Hayward Project would benefit air quality and the environment.

VII. COMPREHENSIVE DEVELOPMENT AND RECOMMENDED ALTERNATIVE

Sections 4(e) and 10(a)(1) of the FPA require the Commission to give equal consideration to all uses of the waterway on which a project is located. When the Commission reviews a hydropower project, the recreational, fish and wildlife, and other nondevelopmental values of the waterway are considered equally with its electric energy and other developmental values. In deciding whether, and under what conditions a hydropower license should be issued, the Commission must weigh the various economic and environmental tradeoffs involved in the decision.

The licensing of the Hayward Project is complicated by unusually high average annual O&M costs, and our economic studies of relicensing the project indicate negative net annual benefits. Recognizing that the net benefits of the project are negative, any additional enhancements would be an added financial burden on Northern States' ratepayers. Certain environmental enhancements would prove beneficial, however, those enhancements would increase the negative net benefits of the project. Due to the project's negative net annual benefits, we also evaluated project retirement as a reasonable alternative.

A. Recommended Alternative.

Our independent review and evaluation of the project included the project as proposed by Northern States, the project with staff and agency recommendations, the project retirement alternative, and the no-action alternative. Based on our analysis, we have selected issuing a subsequent license for the Hayward Project, with our recommended protection and enhancement measures, as the preferred option. We recommend this option because: (1) continued project operation, with our recommended measures, would have minor environmental effects; (2) our recommended environmental measures would protect and enhance fish and wildlife resources, water quality, cultural resources, and recreational resources; (3) the economic costs of operating the project as conditioned in the staff's recommended licensing alternative are less than the costs of project retirement; and (4) the electricity generated from a renewable resource would reduce the use of fossil-fueled, steam-electric generating plants, thereby, conserving nonrenewable energy resources and reducing atmospheric pollution.

Licensing the Hayward Project with our recommended measures would ensure that Northern States' ratepayers would continue to receive the benefits of hydroelectric power while providing environmental enhancement measures that we believe are in the public interest.

B. Developmental and Nondevelopmental uses of the waterway

The significantly higher cost of energy production for the staff's recommended licensing alternative weighs heavily against its energy and environmental benefits. For this reason, we concluded that the economic and environmental consequences of project retirement need to be weighed against the benefits of the staff's recommended licensing alternative.

In order to determine which course of action, on balance, is in the public interest we analyzed the economic and environmental consequences of the various alternatives. Table 6 shows the results of our economic studies of various alternatives including no action, licensing the project with various environmental

Table 6. Summary of economic comparison of alternatives for the Hayward Project (Source: staff).

	GROSS ANNUAL POWER VALUES	ANNUAL PROJECT COSTS	ANNUAL NET PROJECT BENEFITS[1]
No Action	$ 43,600	$ 85,800	-$ 42,200
Northern States' Proposal[2]	$ 42,600	$ 89,600	-$ 47,000
Agencies' Proposal[3]	$ 41,600	$109,100	-$ 67,500
Project Retirement[4]	$ 0	$ 61,600	-$ 61,600
Staff's licensing Proposal[5]	$ 41,600	$ 89,600	-$ 48,000

[1]Negative annual benefits represents a cost paid by Northern States' ratepayers.
[2]Northern States has agreed to make an 8-cfs minimum flow release, to install a fish net and reimburse the WDNR for installation labor costs, to implement their Remediation Plan, and install a headwater chart recorder
[3]The agencies recommend an 8-cfs minimum flow, a barrier net, implementing Northern States' Remediation Plan, a headwater chart recorder, an USGS-type stream gage, additional headwater and tailwater monitoring equipment, a periodic 3-foot reservoir drawdown for 5.5 months, headwater chart recorder costs, and recalibration of the turbine rating curve every 2 years.
[4]Includes a condition to implement Northern States' Remediation Plan
[5]The staff recommends an 8-cfs minimum flow, installation of a barrier net, Northern States' Remediation Plan, and headwater chart recorder, and a periodic 3-foot reservoir drawdown for 5.5 months.

enhancements, and project retirement. Below we clarify the recommended environmental measures and consequences under both the staff's licensing alternative and the project retirement alternative.

1. Staff's Licensing Alternative

This FEA analyzes the effects of Northern States' existing Hayward Project on the Namekagon River and, under the staff's licensing alternative, the staff recommends 16 measures to protect and enhance the environmental resources. The staff's recommended measures are:

- analyze annually the fly ash/cinders used to minimize leakage at the spillway;
- operate the project in a run-of-river mode;
- maintain the impoundment at a target elevation of 1,187.4 feet, with an allowable fluctuation limit between 1,187.0 feet and 1,187.5 feet under normal flow conditions;

- develop and implement a plan to monitor the run-of-river mode of operation and minimum flow requirement;
- maintain the existing headwater and tailwater staff gages and renovate the existing headwater chart recorder, which would continuously monitor impoundment levels;
- develop a plan to ensure downstream flows during power outages;
- provide a continuous minimum flow of 8 cfs, or inflow, whichever is less, to the bypassed reach;
- implement a fish protection plan to include a barrier net designed to protect fish from turbine entrainment;
- finalize and implement Northern States' Remediation Plan to restore the stream habitat in the bypassed reach and improve the canoe portage;
- maintain the existing trashracks, which have 1.5-inch clear bar spacing, to minimize resident fish entrainment and impingement;
- maintain the project lands as fish and wildlife habitat with public access where permitted;
- develop and implement a plan to monitor purple loosestrife and cooperate with the WDNR to control purple loosestrife;
- develop and implement a drawdown management plan for the project impoundment, including appropriate ramping rates;
- preserve all suitable trees (e.g., all large white and red pines) on project lands as potential bald eagle nesting and perching trees;
- implement the provisions contained in the Wisconsin Statewide Programmatic Agreement to protect cultural resources; and
- monitor the adequacy of the recreation facilities over the license term.

Our economic analyses show negative net economic benefits of the project (-$42,200 annually), **without** considering any of our recommended environmental enhancements. Operating the Hayward Project with our recommended enhancement measures would further reduce the projects net economic benefits to -$48,000 or about -33.1 mills/kWh (*see section VI., for a detailed economic analysis*). Under the staff's licensing alternative, the cost of the enhancement measures would increase the annual project cost

($85,800) by $3,800 to $89,600. In addition, staff's minimum flow enhancement and recommended periodic reservoir drawdown would further reduce the power benefits of the project ($43,600) by $2,000 to $41,600. Therefore, the staff's recommended measures would reduce the project's total net benefits by $5,800 annually (from -$42,200 to -$48,000).

The recommended 8 cfs minimum flow in the spillway channel would result in a loss of $1,000 annually over a 30-year period. We concluded that this expense is reasonable given the environmental benefits provided by the minimum flow (*described in detail in section V.C.2*). The 8 cfs minimum flow would provide adequate aeration to maintain water quality in the bypassed reach; protecting the instream habitat for fish and other aquatic organisms.

Renovating the existing headwater chart recorder would cost about $500 annually over a 30-year period. If the Hayward Project is licensed, we conclude that the headwater chart recorder is necessary to help verify the project's operation and improve the public's visibility features regarding impoundment water levels.

Our recommended fish protection plan includes providing a barrier net at the powerhouse intake from June 1 to July 31 annually (*described in detail in section V.C.2*). Through a cooperative arrangement between Northern States and WDNR, the licensee would purchase a barrier net and fund the installation and maintenance of the barrier net. Under the cooperative arrangement, WDNR would annually install and maintain the barrier net. Our recommended fish protection measures would cost the licensee about $2,200 annually. We conclude that this expense is reasonable given the fishery resources that would be protected from fish entrainment through the project.

Our recommendations for restoring the river channel below the spillway and improving the canoe portage at the Hayward Project would cost about $1,100 annually over the license period (*described in detail in section V.C.2 and section V.C.6*). The expense of these enhancements are reasonable when the benefit to both fishery and recreational resources are compared to the minimal energy loss associated with these enhancements.

The bypassed restoration measures would improve fishery habitat by increasing the depth and velocity of the bypassed reach, provide velocity shelters during periods of high flow, and help to maintain suitable substrates in the bypassed reach. Our recommended canoe portage improvements would upgrade the existing access below the dam.

In addition to the costs specified above, any management-based reservoir drawdowns to control nuisance vegetation growth would further reduce project economics. We estimated the cost of a 5.5 month long drawdown every 4 to 5 years could reduce the project's power value by $4,900 per drawdown or about 11 percent of the gross annual energy value of the project. If the experimental drawdowns prove successful in controlling nuisance vegetation, the licensee would be required to implement as many as six drawdowns over the license period. Under this scenario, we estimated that the periodic reservoir drawdowns for 5.5 months would reduce the project's power value by $1,000 annually.

Measures considered, but not recommended - Our selected alternative didn't include adopting three measures recommended by the agencies regarding Northern States' operational compliance plan. The recommendations included: (1) installing USGS-type gaging stations, if needed in the future; (2) installing additional continuously recording headpond and tailwater devices; and (3) developing a flow rating curve (including calibration every two years). We found that requiring these measures would significantly effect the Hayward Project's economic benefits, costing Northern States nearly $20,000 annually.

USGS gaging and continuous recording equipment - Requiring a USGS gaging station and additional continuous recording gages, as recommended by the FWS, would cost Northern States about $18,400 annually. We concluded that these costs outweigh the value of their potential benefit since Northern States' proposed operational monitoring measures would adequately monitor the project's mode of operation. Northern States' proposed operational compliance system includes maintaining the existing headwater and tailwater staff gages, modifying the existing headwater staff gage for public visibility, and renovating an existing continuous recording headwater gage.

Flow rating curve - Northern States has indicated that a flow rating curve for the Hayward Project exists and calibration of the flow rating curve is based on flow through the turbine which has a very slow rate of wear. The added expense of $1,100 annually for Northern States to provide an additional flow rating curve and require them to calibrate the flow rating curve every two years, as recommended by WDNR, wouldn't provide any additional benefits.

In summary, we estimated that the combined costs to implement the three recommended measures discussed above would further reduce the project's negative economic benefits by nearly $20,000 annually. We concluded that the added expense associated with these measures don't outweigh the value of their potential benefit.

2. Project Retirement Alternative

Because the project is uneconomical without any enhancements, we considered project retirement as an alternative to licensing the Hayward Project. The negative net annual benefits under the project retirement alternative, including our recommended conditions, are $13,600 more than the staff's licensing alternative. Table 7 (on page 73) compares the environmental and economic effects of the Hayward Project under the staff's licensing alternative with the environmental and economic effects under the project retirement alternative.

We find that retirement of the Hayward Project would provide certain environmental enhancements. Under the project retirement alternative, the Hayward Project would no longer entrain fish, thus eliminating turbine-related mortality. Additional flows over the spillway could enhance aquatic habitat in the bypassed reach, increase DO concentrations downstream of the Hayward dam, and enhance aesthetic views of flows over the spillway. Retiring the project would eliminate Northern States' cindering process to minimize leakage; eliminating this practice would alleviate any potential of introducing contaminants in the Namekagon River (*see section V.D. for further discussion on the consequences of project retirement*).

If the Commission selects the project retirement alternative, we recommend including a condition to require Northern States to finalize and implement their Remediation Plan. Implementing the proposed plan is necessary under either alternative to restore aquatic habitat that was lost or damaged during Northern States' recent dam reconstruction. Implementing the Remediation Plan would cost about $1,100 annually (*described in detail in section V.C.2 and section V.C.6*).

We also find that retirement of the Hayward Project would result in some negative environmental impacts on fishery, wildlife, cultural, and recreation resources. Regarding fishery resources, the future option to install fish passage at the project would be lost under project retirement. Protection of wetlands at the project against the invasion of exotic wetland species may also be lost. If the Commission no longer had jurisdiction over the 23 acres of lands within the project boundary, the sale or lease of these lands could lead to changes in land use practices. Increased human disturbances through timbering, agricultural or residential development could reduce the amount and quality of lands for recreation, wildlife, and botanical resources. These disturbances *could* also affect the Namekagon River's scenic designation, under the Wild and Scenic Act. If the Hayward Project were retired, the existing recreational facilities may not be maintained and the facilities could be closed to public access.

Under the project retirement alternative, cultural resources associated with the project would not receive the benefits and protection afforded to them through implementing the provisions of the Wisconsin Statewide Programmatic Agreement. Retirement may affect the characteristics of the archeological property at the project that is eligible for inclusion on the National Register. Also, any undiscovered cultural resources on the project lands would not be protected from human disturbances. If the Commission determined that the project should be retired, we would consult with Northern States, the Advisory Council, and the Wisconsin SHPO to seek ways to avoid or reduce the effects on historic properties. We recommend including a condition in the transfer that would ensure adequate protection of the archeological site within the project boundary.

The replacement of 1,448,000 kWh of lost Hayward Project energy with coal-fired generation would likely require the combustion of about 610 tons of pulverized bituminous coal annually, with the attendant production of air pollution and environmental degradation associated with mining and transporting the fuels. Finally, Northern States would incur the cost to amortize sunk project expenses without the benefit of the 1,448,000 kWh electrical energy generated annually by the Hayward Project.

Table 7. Comparative environmental effects of the Hayward Project under the staff's licensing alternative and under the project retirement alternative (Source: staff).

Resource	Staff's Licensing Alternative	Project Retirement alternative
Geology & Soils	No geological effects would result from the continued run-of-river operation or from any new construction.	Same.
Water Quality & Quantity	Potential introduction of contaminants into the river could result from Northern States' "cindering" process to seal small holes between stop-logs; staff recommended monitoring would help minimize this potential effect.	Eliminating the cindering process would alleviate potential contaminant introduction in the Namekagon River.
	Northern States would operate the project in a run-of-river mode and maintain a stable impoundment level; staff recommended operational monitoring plan would verify operational compliance.	Outflow would correspond in volume and periodicity to natural inflow; no flows would pass through the powerhouse and all flows would pass over the spillway. The additional turbulence resulting from increased spillage may provide minimal dissolved oxygen concentration enhancements.
Fisheries		
Bypassed reach habitat	Continuous minimum flow of 8 cfs would protect fisheries resources in the bypassed reach. Implementing the staff recommended bypassed reach restoration plan would improve the existing aquatic habitat.	Additional flows released over the spillway may further enhance aquatic habitat. We would still recommend implementing the bypassed reach restoration plan.
Fish protection	The existing 1.5-inch trashracks would continue to minimize fish entrainment and the staff recommended barrier net would further prevent fish entrainment during the period between June 1 to July 31.	Project retirement would alleviate entrainment, impingement, and any turbine related mortality effects to fish.

Table 7. (continued)

Resource	Staff's Licensing Alternative	Project Retirement alternative
Fish passage	The staff recommended license article would reserve Interior's authority to prescribe fishways in the future.	There would no longer be a mechanism enabling the Commission to require fishways in the future.
Vegetation & Wildlife		
Wildlife Management	Northern States would continue to maintain the 23 acres of project land as fish and wildlife habitat.	The 23 acres of project lands would no longer be protected under Commission jurisdiction and future land use practices could adversely affect terrestrial habitat on these lands.
Wetlands	Northern States would develop and implement a plan to monitor purple loosestrife and cooperate with the resource agencies to control and eliminate this species at the project.	Without a plan to monitor purple loosestrife, its continued spread may go undetected and could displace valuable wetland species at the project.
	Northern States' future management-based drawdowns could help control purple loosestrife and other nuisance weed growth.	It would no longer be possible to manually drawdown the impoundment and any potential biological benefits associated with management-based drawdowns would be lost.
Threatened & Endangered Species	Northern States would preserve trees on the 23 acres of project land that provide potential nesting and perching habitat for bald eagles.	If the project land was removed from Commission jurisdiction, the potential nesting or perching trees on the property would not be protected from disturbance and could result in a loss of suitable bald eagle habitat.
Cultural	Northern States would develop and implement a historic resource management plan to ensure adequate protection of known and undiscovered historic properties at the project, as required by the Wisconsin Statewide Programmatic Agreement.	The programmatic agreement would no longer be applicable to the project area and cultural resources at the project would not be adequately protected from future disturbance.

Table 7. (continued)

Resource	Staff's Licensing Alternative	Project Retirement alternative
Recreational	Northern States would enhance the existing canoe portage facility and ensure public access at the project.	While we would still recommend that Northern State enhance the canoe portage as part of their bypassed reach restoration plan, they would no longer be require to maintain recreational facilities or access at the project.
Aesthetics	No new project-related construction would obstruct the view shed at the project.	While the increased flows over the spillway would enhance the aesthetic views below the dam, the well-maintained appearance of the project facilities may become impaired by neglect. Adverse effects could occur to the Namekagon River's scenic designation, under the Wild and Scenic Rivers Act, if the project lands were no longer protected from land disturbance or construction.
Socioeconomics	Continued operation would not affect the local economy.	Some loss of tax revenues may result from retiring the project's energy generation.
Air Quality	Operating the project would not result in any air pollution effects.	Replacing the potential hydroelectric power produced by the Hayward Project with energy produced by a coal-fired steam-electric plant would annually result in about 600 pounds of additional carbon monoxide and 1,400 tons of additional carbon dioxide.
Hydroelectric Generation	Hayward would produce an annual energy generation of 1.42 gigawatt-hours.	None.
Net Annual Economic Benefits	-$48,000	-$61,600

C. Comprehensive plans

Section 10(a)(2) of the FPA requires the Commission to consider the extent to which a project is consistent with federal or state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by the project. Under Section 10(a)(2), federal and state agencies filed a total of 63 comprehensive plans that address various resources in Wisconsin. Of these, we identified 12 plans relevant to the project.[11] No conflicts were found.

Conclusion of Section 10(a)(1) and 10(a)(2)

From our independent analysis of the environmental and economic effects of the project and the alternatives, as well as the comprehensive plans relevant to the project, we conclude that relicensing the Hayward Project, with our recommended environmental conditions, would best adapt the project to a comprehensive plan for developing the Saint Croix River Basin.

In summary, we conclude that the net economic and environmental benefits associated with issuing a subsequent license to Northern States outweigh the net economic and

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[11] **Federal Plans:** St. Croix National Scenic Riverway final master plan, 1976, National Park Service; Land protection plan, 1984, St. Croix National Scenic Riverway, National Park Service; Land protection plan, 1984, Lower St. Croix National Scenic Riverway, National Park Service; Statement for management, St. Croix and Lower St. Croix National Scenic Riverways, 1986, National Park Service; Comprehensive master plan for the management of the upper Mississippi River system - Environmental report, 1986, National Park Service; North American waterfowl management plan, 1986, U.S. Fish and Wildlife Service and Canadian Wildlife Service; and Fisheries USA: the recreational fisheries policy of the U.S. Fish and Wildlife Service, Fish and Wildlife Service.

State Plans: St. Croix River Basin areawide water quality management plan, 1980, Wisconsin Department of Natural Resources; Statewide comprehensive outdoor recreation plan, 1991, Wisconsin Department of Natural Resources; Upper St. Croix management policy resolution, 1993, Upper St. Croix Management Commission; Wisconsin water quality assessment report to Congress, 1992, Wisconsin Department of Natural Resources; and An evaluation of the sedimentation process and management alternatives for the Trego flowage, Washburn County, Wisconsin, 1989, Wisconsin Department of Natural Resources.

environmental benefits of project retirement. Thus, our preferred alternative is relicensing the Hayward Project.

VIII. CONSISTENCY WITH FISH AND WILDLIFE RECOMMENDATIONS

Section 10(j) of the FPA requires the Commission to include license conditions, based on recommendations provided by the federal and state fish and wildlife agencies for the protection of, mitigation of adverse impacts to, and enhancement of fish and wildlife resources affected by the project. We have addressed the concerns of the federal and state fish and wildlife agencies and made recommendations, some of which are inconsistent with those of the agencies.

Section 10(j) of the FPA states that whenever the Commission believes any fish and wildlife agency recommendations are inconsistent with the purposes and requirements of the FPA or other applicable law, the Commission and the agencies shall attempt to resolve any such inconsistency, giving due weight to the recommendations, expertise, and statutory responsibilities of such agencies. Both the FWS and WDNR recommended license conditions pursuant to Section 10(j) of the FPA. The NPS also provided Section 4(e) recommendations which we've considered under Section 10(a) of the FPA (*for further discussion on the NPS's recommendations see section III, Mandatory Requirements, page 5*).

We determine that some of the federal and state fish and wildlife agencies' recommendations conflicted with the comprehensive planning and public interest standards of Sections 4(e) and 10(a) of the FPA. Specifically, we do not recommend requiring Northern States to implement the following three measures regarding Northern States' operational compliance plan: (1) installing additional continuously recording headpond and tailwater devices; (2) installing USGS-type gaging stations, if needed in the future; (3) developing a flow rating curve (including calibration every two years). We found that requiring these measures would cost Northern States nearly $20,000 annually, further reducing the project's negative economic benefits. We concluded that the excessive costs of implementing these recommendations would significantly impact the project's economics and that the costs are more than the value of their potential benefits.

Moreover, we determine that the following agency recommendations are inappropriate fish and wildlife recommendations: (1) the FWS's and WDNR's recommendations concerning a re-opener clause to recommend additional facilities or modifications to project structures and operation; (2) WDNR's recommendation regarding the consistency of project operation with federal and state comprehensive plans; (3) WDNR's recommendation pertaining to recreation access; (4) WDNR's recommendation to comply with applicable state laws and permits; and (5) the FWS's project retirement fund recommendation. Under Section 10(j) of the FPA, these recommendations do not provide measures for the protection, mitigation of damages to, and enhancement of fish and wildlife resources.

Recommendations that we considered outside of the scope of 10(j) were considered under Section 10(a) of the FPA. With two exceptions, these recommendations are addressed in the specific resource sections of this FEA (*see section V.C*). We have not addressed WDNR's recommendations which require compliance with Wisconsin State statutes and codes. The applicability of state law requirements to licensed projects is beyond the scope of this FEA.

We also have not addressed the FWS's project retirement fund recommendation. The FWS recommended, under Section 10(j) of the FPA, that the licensee establish a retirement fund for the Hayward Project. Specifically, the FWS recommends that within 1 year, and in consultation with the resource agencies, the licensee should estimate the costs of: (a) permanent non-power operation; (b) partial project removal; or (c) complete project removal at the Hayward Project. They further recommend that the licensee submit to the Commission, for approval, the cost estimates and a schedule for making payments to a trust fund. Within 5 years of license issuance the licensee should begin payments to the trust fund according to the approved schedule, and the State of Wisconsin should be the beneficiary.

The FWS's retirement fund recommendation is not a fish and wildlife recommendation pursuant to Section 10(j) of the FPA, in that it does not provide measures for the protection, mitigation of damages to, and enhancement of fish and wildlife resources. Furthermore, the statements made by the FWS in support of its recommendation provide no evidence that a trust fund is needed, and we conclude that it is an inappropriate recommendation.

The federal and state recommendations subject to Section 10(j) and 10(a), and whether they are adopted under the staff alternative, are detailed in Table 8. We attempted to resolve the inconsistencies between our recommended resource enhancement measures and those of the federal and state agencies during a September 15, 1994, telephone conference.

During the Section 10(j) telephone conference, three 10(j) issues were discussed, including specific provisions of the reservoir drawdown management plan, the seasonal barrier net, and the impoundment fluctuation limit. We reached agreement on the seasonal barrier net and the impoundment fluctuation limit. Discussions in Sections V.C.1.b., V.C.2.c., and V.C.3.d., and in our responses to comments on the DEA reflect the outcome of discussions during the Section 10(j) telephone conference.

Table 8. Summary of agency recommendations and actions (Source: staff).

Recommendation	Agency	Within scope of § 10(j)	Annual cost of environmental measures	Adopted
1. Monitor the fly ash/ cinders used at the project	WDNR	Yes	Indeterminate	Yes
2. Run-of-river operation with a impoundment fluctuation limit of ±0.25 feet	FWS WDNR	Yes	Indeterminate	No (resolved at 10(j) meeting)
3. Consult with agencies during drought events that require alteration of project operation	WDNR	Yes	Indeterminate	Yes
4. Maintain headwater and tailwater staff gages	WDNR	Yes	Indeterminate	Yes
5. Create a flow rating curve for the project and calibrate flows every 2 years	WDNR	Yes	$1,100	No (No agency comments at 10(j) meeting - resolved)
6. Develop a plan to monitor the project operation	FWS	Yes	$18,400	No (partial: Our recommended plan doesn't include additional continuous recording gages and USGS-type flow gages. No agency comments at 10(j) meeting - resolved)
7. Ensure downstream flows during power outages	FWS	Yes	Indeterminate	Yes
8. Maintain a upstream staff gauge which is visible to the public	WDNR	Yes	$500	Yes

Table 8. (continued)

Recommendation	Agency	Within scope of § 10(j)	Annual cost of environmental measures	Adopted
9. Ensure that project operation is consistent with federal and state comprehensive plans	WDNR	No	Indeterminate	Yes
10. Maintain a minimum flow of 8 cfs in the bypassed reach	FWS WDNR	Yes	$1,000	Yes
11. Implement habitat rehabilitation for the bypassed reach and canoe portage plan	WDNR	Yes	$1,100	Yes
12. Install seasonal barrier net	FWS WDNR	Yes	$2,200	Yes (Resolved through 10(j) process)
13. Retain the 23 acres of project lands for the protection of fish and wildlife	FWS	Yes	Indeterminate	Yes
14. Purple loosestrife monitoring and control measures	FWS WDNR	Yes	Indeterminate	Yes
15. Develop a drawdown management plan which includes appropriate ramping rates	FWS WDNR	Yes	$1,000	Yes
16. Reopener clause to recommend additional facilities or modifications to project structures and operation	FWS WDNR	No	Indeterminate	No
17. Preserve all super canopy trees in project area for potential bald eagle nesting sites	FWS	Yes	Indeterminate	Yes

Table 8. (continued)

Recommendation	Agency	Within scope of § 10(j)	Annual cost of environmental measures	Adopted
18. Barrier-free canoe portage improvements	WDNR	No	Indeterminate	Yes
19. Compliance with Wisconsin State statutes and codes	WDNR	No	Indeterminate	No
20. Project retirement fund	FWS	No	Indeterminate	No

IX. FINDING OF NO SIGNIFICANT IMPACT

Continuing to operate the Hayward Project, with our recommended protection and enhancement measures, involves no land-disturbing or land-clearing activities. Our recommended measures would ensure state water quality standards, ensure natural flow patterns below the project, and prevent potential dewatering to the impoundment shoreline and tailwater areas. Restoration of the river channel below the spillway and improvements to the canoe portage would cause minor, short-term increases in soil erosion and sedimentation. Project operation and the associated fish entrained through the project's turbines would result in some minor, long-term effects on resident fish in the Namekagon River. Maintaining the existing trashracks would continue to minimize these effects and implementing our recommended fish protection plan would further prevent losses to the fishery resources.

On the basis of our independent environmental analysis, relicensing the Hayward Project would not constitute a major federal action significantly affecting the quality of the human environment.

X. LITERATURE CITED

Becker, G. 1983. Fishes of Wisconsin. University of Wisconsin Press, Madison Wisconsin. 1052 pp.

Bever, G.G. and M. Lealos. 1974. Walleye fishery in Pike and Pond Lakes, Price County, Wisconsin. Wisconsin Department of Natural Resources, Bureau of Fish Management. Report No. 73. 16 pp.

Braun, E. Lucy. 1950. Deciduous Forests of Eastern North America. Hafner Press, New York, NY. 596 pp.

Cada, G.F. 1990. A review of studies relating to the effects of propeller-type turbine passage on fish early life stages. North American Journal of Fisheries Management. Bethesda, Maryland. 10:418-426.

Cooke, G.D., E.B. Welch, S.A. Peterson, and P.R. Newroth. 1986. Lake and Reservoir Restoration. Butterworth Publishers, Boston, MA. 392 pp.

Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRue. 1979. Classification of wetlands and deep water habitats of the United States. U.S. Department of the Interior, Fish and Wildlife Service, FWS/OBS-79/31. 131 pp.

Davin, W.T., R.C. Heidinger, R.J. Sheehan, C. Kohler, and B.L. Tetzlaff. 1989. Supplemental stocking and spillway escapement; Literature review. Federal Aid in fish Restoration Project F-77-R. 548 pp.

Electric Power Research Institute. 1992. Fish entrainment and turbine mortality review and guidelines. Prepared by Stone and Webster Environmental Services, Boston, Massachusetts. EPRI. TR-101231, Project 2694-01, Final Report, September, 1992.

Entz, B. 1977. Environmental conditions of percid waters in central Europe. Journal of the Fisheries Research Board of Canada. 34:1586-1591.

Federal Energy Regulatory Commission. 1983. Planning status report. St. Croix River Basin, Wisconsin-Minnesota. Federal Energy Regulatory Commission, Office of Electric Power Regulation, Washington, D.C. Revised June 1983.

_____. 1993. Computer data base. Federal Energy Regulatory Commission, Office of Hydropower Licensing, Washington, D.C. December 8, 1993.

_____. 1991. FERC Form 80, Licensed hydropower development recreation report. 1991.

Forney, J.L. 1977. Evidence of inter-and intra-specific competition as factors regulating walleye (*Stizostedion vitreum vitreum*) biomass in Oneida Lake, New York. Journal of the Fisheries Research Board of Canada. 34:1812-1820.

Gablehouse, D.W., Jr. 1984. A length categorization to assess fish stocks. North American Journal of Fisheries Management. 4(3):273-288.

Graczyk, D.J. 1986. Water quality in the St. Croix National Scenic Riverway, Wisconsin. Water resource investigations report 85-4319. United States Department of the Interior Geological Survey.

Jernejcic, F. 1986. Walleye migration through Tygart dam and angler utilization of the resulting tailwater and lake fisheries. pp. 294-300 in G.E. Hall and M.J. Van Den Avyle [editors], Reservoir Fisheries Management: Strategies for the 80's. Reservoir Committee, Southern Division American Fisheries Society, Bethesda, Maryland.

Johnson, F.H. and J.G. Hale. 1977. Interrelations between walleye (Stizostedion vitreum vitreum) and smallmouth bass (Micropterus dolomieui) in four northeastern Minnesota lakes, 1948-69. Journal of the Research Board of Canada. 34:1626-1632.

Knapp, W.E., B. Kynard, and S.P. Gloss. (editors). 1982. Potential effects of Kaplan, Osseberger, and bulb turbines on anadromous fishes of the northeast United States. FWS/OBS-82/62. U.S. Fish and Wildlife Service, Newton Corner, Massachusetts. September 1982. 132 pp.

Lawler, Matucky, and Skelly Engineers. 1991. Length/width size estimation. Fish entrainment monitoring program a the Hodenpyl Hydroelectric Project, FERC No. 2599, draft application. Consumers Power Company. Jackson, Michigan. Pages 2-14 to 2-15.

Malecki, R.A., B. Blossey, S.D. Hight, D. Schroeder, L.T. Kok, and J.R. Coulson. 1993. Biological Control of Purple Loosestrife. BioScience, vol. 43, no. 10, November 1993.

McMahon, T.E., J.W. Terrell, and P.C. Nelson. 1984. Habitat suitability information: Walleye. U.S. Fish and Wildlife Service. FWS/OBS-82/10.56. 43 pp.

Northern States Power Company. 1991. Application for a subsequent license for the Hayward Hydroelectric Project, a minor water project, FERC Project No. 2417, Eau Claire, Wisconsin. December 23, 1991.

______. 1992(b). Report providing additional information, Hayward Hydroelectric Project, Project No. 2417, Eau Claire, Wisconsin. September 3, 1992.

______. 1994(c). Letter providing additional information, Hayward Hydroelectric Project, Project No. 2417, Eau Claire, Wisconsin. January 14, 1994.

_____. 1991(d). Application for a new license for the Trego Hydroelectric Project, a minor water project, FERC No. 2711, Eau Claire, Wisconsin. March 22, 1991.

Pratt, F. 1993. Lake Hayward hydro-relicensing fishery survey, 1991. Wisconsin Department of Natural Resources, Intra-Departmental Memo. 22 pp + Tables and Figures.

Scott, W.B. and E.J. Crossman. 1973. Freshwater Fishes of Canada. Fisheries Research Board of Canada, Ottawa. Bulletin 184. pp. 767-774.

Shelford, V. E. 1963. The Ecology of North America. University of Illinois Press, Urbana, IL. 610 pp.

U.S. Department of the Interior, National Park Service. 1976. St. Croix National Scenic Waterway, final master plan, October 1976. 64 pp.

_____. 1984. Land protection plan, St. Croix National Scenic Riverway. St. Croix Falls, Wisconsin. September 10, 1984. 26 pp. and appendices.

Van Dyke, A. P. 1991. An archaeological survey of the Hayward Hydroelectric Project on the Namekagon River at Hayward, Sawyer County, Wisconsin (FERC Project No. 2417), Prepared for Northern States Power Company by BZ Engineering, Inc., West Allis, Wisconsin. October 1991. 47 pp.

Wisconsin Department of Natural Resources. 1989. An evaluation of the sedimentation process and management alternatives for the Trego flowage, Washington County, Wisconsin, May 1989. 20 pp.

XI. LIST OF PREPARERS

Rich McGuire -- Environmental Coordinator, Geological Resources, Aesthetic Resources, Cultural Resources, Recreation and Other Land and Water Uses (Environmental Protection Specialist, M.S., Recreation and Parks).

Allan Creamer -- Water Resources, Fishery Resources (Fisheries Biologist, M.S., Fisheries Science).

Mary Golato -- River Basin Assessment (Public Utilities Specialist, B.S., English).

Dr. C. Frank Miller -- Purpose and Need for Power (Electrical Engineer; Doctor of Engineering).

Patrick K. Murphy -- Terrestrial Resources, Endangered Species (Wildlife Biologist, M.S., Wildlife Management).

Wonkook Park -- Purpose and Need for Power (Electrical Engineer, B.S., Civil Engineering (Professional Degree).

David Zehner -- Safety and Design Assessment (Civil Engineer, Degree of Engineer (Professional Degree), Geotechnical Engineering).

APPENDIX A

LETTERS OF COMMENT ON THE DRAFT ENVIRONMENTAL ASSESSMENT AND STAFF RESPONSES

NSP

Northern States Power Company

July 14, 1994

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REGULATORY COMMISSION

Ms. Lois Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capital Street, N.E.
Washington, D.C. 20426

Dear Madam Secretary,

RE: **HAYWARD HYDROELECTRIC PROJECT, FERC PROJECT NO. 2417—001**
<u>COMMENTS ON DRAFT ENVIRONMENTAL ASSESSMENT</u>.

Northern States Power Company (NSP) has reviewed the Draft Environmental Assessment (EA) for the Hayward Project, dated June 16, 1994, and offers the following comment for consideration by the Commission Staff (hereinafter Staff).

Under section V.C.6.a , page 45, of the Draft EA, the Staff recommends that NSP redesign the canoe portage trail at the Hayward Dam to ensure that there are no architectural barriers which would exclude disabled individuals. Specific actions that were recommended included installation of a hardened surface, switch back, trail that meets the ADA barrier-free design standards, and safety railing at the canoe put-in.

1. As indicated in our previously filed comments, dated November 16, 1993, NSP disagrees with the above cited recommendation. The basis for our disagreement is several fold. First, the ADA states that it is discriminatory to fail to remove structural, architectural, and communication barriers in existing facilities (the Hayward Dam canoe portage trail is an existing facility) where such removal is "readily achievable" - easily accomplished and carried out without much difficulty or expense. NSP does not believe that installation of the switch-back trail recommended by the staff meets the "reasonable" criteria spelled out in the ADA for the following reasons:

1) The recommended slope of a trail to accommodate access by handicapped individuals is 20:1 with rest areas every 100 feet.

2) The slope to be descended at the Hayward dam is at least 20 feet high and covered for the most part with trees and shrubs. The lateral area along the face of the slope that can accommodate the trail is limited to about 100 feet, at the maximum. The slope specifications and site constraints translate to a trail that would have to be at least 400 feet long with four switch backs cut across the face of the slope

1. We agree, see revised section V.C.6.a.

A-2

3) Trail formation would severely alter the vegetative cover, drainage pattern and aesthetic character of the hillside in the dam tail-water area. This would not be a "reasonable" compromise for the overwhelming majority of users of the area who are not handicapped.

4) The Staff recommendation does not address measures that would have to be developed at the canoe "take-out" to make the project site totally accessible for the handicapped. At the "take-out", there is another steep bank that is at least 6 feet high which would pose comparable installation concerns as on the downstream side of the dam.

5) The likelihood of use of the portage trail by the disabled is remote. Most canoeists who use the Namekagon River upstream from the project plan their trip so they are ready to take-out at the headwaters of Lake Hayward rather than paddle through the lake's 2.25 miles of slack water to take-out at the dam. Those who canoe the river downstream from the city of Hayward start their journey at the DNR launch site which is located about 0.50 miles downstream from the Hayward dam. The launch site provides excellent highway access, good parking, and ready access with a wooden dock to the river for the handicapped individuals. These two sites would be expected to receive the majority of use by the canoeing public, irrespective of the planned improvements at the dam's portage trail.

NSP wants to clarify that we support the ADA and have incorporated appropriate barrier-free facilities throughout our buildings and other facilities. At the same time, we believe there needs to be a certain degree of reasonableness applied when there is room to apply this criterion for existing facilities. In the case of the staff's recommended barrier-free canoe portage trail, we do not believe that the ADA-specified reasonableness criterion is met. NSP, therefore requests that staff's recommendation on this issue be reconsidered during preparation of the final EA.

Thank you for the opportunity to comment on the draft EA. Any questions on this filing can be directed to me by telephone at 715/839-2692.

Very truly yours,

Lloyd Everhart

Lloyd Everhart, Administrator
Hydro Licensing & Environmental Studies

c: J. Schierer (WDNR)
L. Oborny (USFWS)
S. Jennings (Nat'l Park Service)

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WISCONSIN DEPT. OF NATURAL RESOURCES

State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

PARK FALLS AREA HEADQUARTERS
P.O. Box 220
875 South Fourth Avenue
Park Falls, Wisconsin 54552
TELEPHONE 715-762-3204
TELEFAX 715-762-4348

July 27, 1994

Ms. Lois D. Cashell, Secretary
Federal Energy Regulatory Commission
825 North Capitol Street, N.E.
Washington, D.C. 20426

COMMENTS ON DRAFT ENVIRONMENTAL ASSESSMENT
Hayward Hydroelectric Project
FERC Project #2417
Northern States Power Company

Dear Ms. Cashell:

The Wisconsin Department of Natural Resources submits the following comments on the **Draft Environmental Assessment** which the Commission prepared for Northern States Power Company's Hayward Hydroelectric Project. Please consider these comments when you finalize the **Environmental Assessment** for this project. We are particularly concerned about the Commission's preliminary determination on our recommendations for the provisions of the Drawdown Management Plan and our request for a fish barrier net to mitigate entrainment. In accordance with the Commission's regulations, we have enclosed this original plus 8 copies of our remarks on the **Draft Environmental Assessment**. We have also sent copies of this letter to all parties on the Commission's service list for Project #2417.

We support the Commission's recommendation to relicense the Trego and Hayward hydroelectric projects together. By adjusting the license terms for these projects so that their subsequent licenses expire at the same time, the Commission can facilitate a comprehensive and coordinated review of the environmental effects of the Trego and Hayward hydro projects on the resources of the St. Croix/Namekagon river system.

1. Our second comment concerns the administration of Wisconsin's floodplain zoning and dam safety programs. The last paragraph on page 57 of the **Draft Environmental Assessment** dismissed our recommendation for license articles requiring compliance with the Chapters 30 and 31 of the Wisconsin State Statutes, as well as with NR 116 (Wisconsin's Floodplain Management Program), NR 330 (Warning Signs and Portages for Dams), and NR 333 (Dam Design and Construction Standards) of the Wisconsin Administrative Code:

> "We have not addressed WDNR's recommendations which require compliance with Wisconsin State statutes and codes. The applicability of state law requirements to licensed projects is beyond the scope of this DEA."

We believe that dam safety and floodplain zoning issues should be considered in the **Environmental Assessment** for any hydro project under the comprehensive development standard of the Federal Power Act. Matters related to dam safety and floodplain zoning affect not only the human environment, but the natural environment as well. Therefore, floodplain zoning and dam safety concerns should be addressed in the **Environmental Assessment** to adequately ensure the public's welfare and to protect natural resources. In addition, there have been recent court challenges regarding the state and federal regulatory authority for dam safety and floodplain zoning at licensed hydroelectric

1. **State verses Federal Law.** Comment noted, Mead and Hunt, consulting engineers for Northern States Power Company (Northern States), completed a dam break analysis for the Hayward Project and filed it on May 26, 1992. The analysis was made for purposes of the reevaluation of the hazard potential rating of the project. The Federal Energy Regulatory Commission's (Commission) Chicago Regional Office informed Northern States, by letter dated November 5, 1992, that the hazard potential classification would remain "low."

We have no objection if Northern States wishes to voluntarily file a copy of the dam break analysis with the State of Wisconsin. However, we will not recommend any license article which requires Northern States to comply with state law dealing with flood plain management and dam design standards. The projects. We request affirmation of your position in light of the First Iowa and Rock Creek decisions by the U.S. Supreme Court. If you conclude that the state's authority is preempted by federal jurisdiction, then we request that you include the provisions of NR 116, NR 330, and NR 333 in the license to adequately protect public health, safety, and welfare. We ask that you require the licensee to use warning signs that comply with the provisions of NR 330. This license provision will promote consistency in warning signage among dam sites and help to avoid any confusion on the part of the public users.

2. We concur with the Commission's recommendation that Northern States Power should develop and implement a Drawdown Management Plan for Lake Hayward in consultation with the resource agencies. We do not object to rewording our recommendation for a drawdown rate to provide some flexibility. We can agree to a drawdown rate of 6 inches/day at about 1 inch every 4 hours, provided that water levels decrease slowly and gradually. We cannot permit the reservoir to be drawn rapidly and suddenly, even within the prescribed rate of 6 inches/day. However we disagree with your specific recommendations that the provisions for monitoring sediments and biological resources should be excluded from the plan. Your staff pointed out that the recommended drawdown rates and alternatives to drawdowns, such as coffer dams and diver inspections, would minimize resuspension and movement of the sediments and minimize any adverse effects to biological resources. We recognize that appropriate alternatives to drawdowns could preclude the need to monitor sediments and biological resources. Our recommendation was intended to cover those instances where a reservoir drawdown was necessary or desired, and no suitable alternative could be found to accomplish the same objectives. We believe that it is necessary to monitor sediments and biological resources during future drawdowns on a case-by-case basis to verify that the prescribed methods and rates of the drawdown provide adequate resource protection. The drawdown rate of 6 inches/day and 1 inch every 4 hours is a generic recommendation, based on the professional judgment of our resource managers, for reducing the adverse impacts of drawdowns. By monitoring sediments and biological resources during drawdowns, the drawdown rate and procedures can be adjusted, if necessary, for optimal resource protection under the specific circumstances of that particular drawdown. For instance, if observations reveal that a drawdown is jeopardizing a sensitive species or habitat, then preventive or corrective actions could be taken before the full impact is realized. We believe that provisions for monitoring sediments and biological resources during future drawdowns are essential components of a Drawdown Management Plan because they serve as specific measures to protect fish and wildlife resources. We ask the Commission to reconsider its recommendation that these provisions should be excluded from the Drawdown Management Plan for the Hayward Hydro Project.

We also ask the Commission to reexamine its recommendation for shortening the duration of the 5½-month management-based drawdown which the Department proposed for Lake Hayward. We disagree with your staff's opinion that a drawdown lasting 30 days would probably result in the same environmental benefits anticipated from one lasting 5½ months. To correct an apparent misunderstanding, we would also like to clarify several points about the experimental nature of the management-based drawdown that we made in our original recommendation. According to the **Draft Environmental Assessment**, the Commission staff believed that a 5½-month drawdown is too lengthy because the recommended drawdowns are an experimental approach to control aquatic plants and because the environmental benefits of drawing the Hayward impoundment are not currently verified. We want to point out that the practice of manipulating the water level of impoundments to control aquatic macrophytes and improve fish populations is a proven management technique that is both highly effective and cheap. The scientific literature contains numerous citations where management-based drawdowns were successfully used to control nuisance aquatic vegetation, improve the spawning success of gamefish, increase the growth rates of stunted panfish population, compact sediments for better navigation and enhanced recreational opportunities, etc.[1] The reference to an

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[1] We have provided several examples from the numerous citations on management based drawdowns.

Beam, J. H. 1983. The effect of water level management on population trends of white crappie in Elk City reservoir, Kansas. North American Journal of Fisheries Management 3:34-40.

Beard, T. D. 1984. Overwinter drawdown, impact on the aquatic vegetation in Murphy Flowage, Wisconsin. Technical Bulletin No. 61. Department of Natural Resources, Madison, Wisconsin.

Commission should not encumber a project license with requirements that would force Northern States to comply with state dam safety laws. The Hayward dam is subject to the safety standards of the Commission, which has full authority over all dam safety matters.

2. **Drawdown management plan.** While staff maintains that the rate of reservoir drawdown would minimize the resuspension of sediments and minimize any adverse effects on sensitive biological resources, we recognize Wisconsin Department of Natural Resources' (WDNR) concerns. Regarding the resuspension of sediments issue, the WDNR noted during the Section 10(j) telephone conference that they knew of one contaminated site about .5 mile upstream of the dam that contained chromium, oil, and grease deposits. Although no specific sensitive biological resource has been identified thus far, we recognize that there is a potential for an adverse effect on such resources with reservoir drawdown. Also, we recognize that with monitoring, certain adjustments could be made with the drawdown rate and procedure to minimize resuspension of sediments and protect sensitive biological resources. However, as discussed during the Section 10(j) negotiations, we maintain that the WDNR is responsible for such monitoring. The WDNR agreed. Therefore, we have revised our recommendation in section V.C.3.d. to include a requirement for the licensee to develop a cooperative agreement with the WDNR to monitor sediments and sensitive biological resources during non-emergency reservoir drawdown events.

In reconsideration of the reservoir drawdown period issue, staff finds that a 30-day drawdown period would probably not be sufficient for intended purpose of submerged aquatic plant reduction and sediment compaction. The WDNR states that both sediment compaction and aquatic plant reduction rely on exposing the littoral zone to subfreezing temperatures and desiccating conditions for extended periods. The WDNR does not state specifically what the extended period should be, but does indicate that it should be longer than 30 days. During the 10(j) "experimental drawdown" in our original recommendation was not intended to imply that there is a need to test the effectiveness of drawdowns as a means to achieve resource management objectives. From our own experiences and those of others, we are convinced that seasonal pond level manipulations can serve as an effective means for managing the aquatic community in impoundments with water control structures. Many of our resource managers routinely employ reservoir drawdowns for the very purposes discussed above. We are confident that our recommended winter drawdown would benefit the resources in Lake Hayward.

Our reason for the "experimental drawdown" of the Hayward Flowage was intended to provide an opportunity to demonstrate the benefits of periodic winter drawdowns of 2 to 3 feet every 4 to 5 years. After the first scheduled drawdown in 1995-96, we would evaluate the positive and negative aspects of the drawdown with respect to fish, wildlife, and aquatic plant communities, hydropower generation, winter and summer recreational opportunities, littoral habitat, sediment control, impacts on furbearers, reptiles, and amphibians, muskellunge reproduction, panfish size structure, etc. If the first drawdown results in appreciable benefits to resources, we requested the Commission to incorporate management-based drawdowns at 4 to 5 year intervals into the subsequent license as a long term provision of the Drawdown Management Plan. If the first "experimental" drawdown results in marginal benefits or unacceptable adverse impacts to natural resources or hydroelectric generation, then management-based drawdowns would be discontinued. We regret if our original recommendation caused any confusion, and we hope that this explanation clearly defines our Hydro Review Team's position on management-based drawdowns at the Hayward Project.

The Commission staff also believed that the 30-day drawdown suggested by Northern States Power was more reasonable because it would probably yield the same environmental benefits as a 5½-month drawdown, but a 1-month drawdown in late autumn would not require modifications to the project's inlet. The Department's resource managers do not believe that a month-long drawdown in late fall would produce the same anticipated benefits as a 5½-month drawdown. In fact, we are skeptical that a 30-day drawdown during the fall would yield any measurable resource benefits for Lake Hayward. Most of the management objectives that were listed above focus on reducing the density of the aquatic macrophytes and consolidating the sediments in the littoral zone. Both sediment compaction and aquatic plant reduction rely on exposing the littoral zone to subfreezing temperatures and desiccating conditions for extended periods. While it may be possible to begin refilling the reservoir before April 1, we believe that the winter drawdown should last longer than 30 days. Furthermore, our experiences have shown that successful management drawdowns require exposure to harsh winter conditions that will not be present in late fall, even at the latitude of the Hayward Project. A month-long drawdown of Lake Hayward for road construction in the fall of 1991 resulted in no perceptible change in the density of aquatic vegetation.

We emphasize that over the 30-year term of the subsequent license the associated cost of the management based drawdowns is reasonable. Northern States Power's objections to our recommended drawdown included concerns about lost generation from a 3 foot decrease in operating head during a 5½-month drawdown. They estimate that

Benson, N. G., and P. L. Hudson. 1975. Effects of a reduced fall drawdown on benthos abundance in Lake Francis Case. Transactions of the American Fisheries Society 104:526-528.

Dombeck, M. P., B. W. Menzel, and P. N. Hinz. 1984. Muskellunge spawning habitat and reproductive success. Transactions of the American Fisheries Society 113:205-216.

Heman, M. L., R. S. Campbell, and L. C. Redmond. 1969. Manipulation of fish populations through reservoir drawdown. Transactions of the American Fisheries Society 98:293-304.

Miranda, L. E., W. L. Shelton, and T. D. Bryce. 1984. Effects of water level manipulation on abundance, mortality, and growth of young-of-year largemouth bass in West Point Reservoir, Alabama-Georgia. North American Journal of Fisheries Management 4:314-320.

Nichols, S. A. 1974. Mechanical and habitat manipulation for aquatic plant management. Technical Bulletin No. 77, Department of Natural Resources, Madison, Wisconsin.

Shields, J. T. 1957. Experimental control of carp reproduction through water drawdowns in Fort Randall Reservoir, South Dakota. Transactions of the American Fisheries Society 87:23-33.

negotiations the WDNR indicated that a 2 to 3 month period may be acceptable. Cooke, et. al. (1986), states that long periods of drying and freezing are needed (three weeks or more) to kill plants such as Eurasian water milfoil.

Staff contends that drawing the reservoir down for a period of 2 to 3 months beginning in the late fall (e.g., November) is likely to be sufficient to provide the drying and freezing needed to compact sediments and reduce aquatic plants. However, staff recognizes that during some years the climatic conditions may not be suitable to achieve the intended results. For example, heavy snows may fall during the first part of the drawdown period, which would tend to insulate the exposed reservoir bottom preventing sufficient drying and freezing. Therefore, because of the uncertainty of the drawdown period duration and appropriate climatic conditions, among other variables, the drawdown plan should incorporate provisions for modifications, or adaptive management. Revisions have been made in section V.C.3.d regarding these changes in staff's position.

each drawdown would reduce the gross energy value for the project by about 15%. This cost must be levelized over the 30-year term of the next license. Our recommended management-based drawdowns could take place as many as 5 to 7 times, or only once, depending on the evaluation of the first drawdown. For the remaining 23 to 29 years, Northern States can maintain a target pond elevation of 1187.4 feet to produce hydropower under the run-of-river conditions of project operation. The **Draft Environmental Assessment** explains that the Hayward Project supplies a renewable source of energy, that there is a demonstrated need for this power to meet the anticipated increase in demand in this region, and that replacement of lost generation would probably come from fossil fuel burning steam plants which contribute to atmospheric pollution and global warming. Consequently, we would be receptive to proposals for reasonable modifications to the magnitude, duration, and frequency of management drawdowns for the purpose of reducing generational losses, provided that the objectives of the drawdowns and the probability of meeting those objectives is not compromised. Northern States can pursue any such options for decreasing lost generation when it prepares its Drawdown Management Plan in consultation with the resource agencies. In addition, we have already agreed to coordinate drawdowns for resource management with drawdowns scheduled for the maintenance and inspection of project structures whenever possible. Northern States also explained that a 3-foot drawdown would create an opening between the power canal and the powerhouse, and the resulting loss of heat through this opening would cause severe ice build-up that could damage the turbine. Although Northern States did not provide a cost estimate to alleviate this problem, we believe that a temporary and reusable addition to the curtain wall could be inexpensively installed at the intake to prevent heat loss from the powerhouse during winter drawdowns.

The provisions for management based drawdowns and for monitoring sediments and biological resources during future drawdowns are specific measures to protect and enhance fish and wildlife resources. Over the 30-year license term, the cost of implementing these provisions is reasonable in light of the value of their benefits to the aquatic and recreational resources of Lake Hayward. Therefore, we ask that these provisions be retained in the Drawdown Management Plan as conditions of the license for the Hayward Hydro Project.

3. Finally, we wish to address the Commission's preliminary determination that our recommendation for installing a seasonal barrier net as mitigation for fish entrainment conflicts with the comprehensive planning and public interest standards of the Federal Power Act because the cost of the seasonal barrier net is greater than its potential benefits. We believe the estimated price for installing and maintaining the barrier net was exorbitantly inflated in the cost/benefit analysis. We disagree with your staff's conclusion that Northern States Power's proposal to maintain the existing 1½-inch trashracks would continue to provide a level of fish protection that would minimize resident entrainment and impingement at the Hayward Project. In addition, we wish to present supplemental information to support the need for entrainment protection and to persuade the Commission to incorporate our recommendation for a barrier net as an article of the subsequent license for this project.

It may be helpful to briefly recount the proceedings on the entrainment issue. In early consultations for this license application, the Department identified fish entrainment as one of the resource issues associated with the Hayward Hydro Project. In response, Northern States Power proposed to place a barrier net in front of the plant intake as a direct mitigation measure, in lieu of conducting comprehensive fish surveys on Lake Hayward and entrainment studies. We did not accept the proposition to jump straight to mitigation without evaluation. We reiterated our original recommendation and referred to our fisheries management guidelines which offer a range of options to address entrainment at the Hayward Project. At that time we believed that the results from other entrainment studies could be applied to the Hayward Project, provided that there were enough similarities in the projects and the fish communities to do so. In addition, the Department would need quantitative fisheries information from a comprehensive survey on Lake Hayward to enable us to relate the results from other studies to the fishery at the Hayward Project. We agreed to wait for the results of several ongoing and scheduled entrainment studies that were necessary for the environmental review of other license applications. We would then determine whether or not the results of those studies could be used to infer the impact of entrainment on the fishery at Lake Hayward. Northern States Power did address entrainment in their license application, citing entrainment studies done at their Thornapple Hydro Project and elsewhere. We disagreed with their conclusion that turbine passage and mortality should be low at the Hayward Hydro site. Although Lake Hayward supports a good fishery for other species, adult walleyes density is substantially below the regional average. Based on studies at other sites, including the Thornapple Entrainment Study, we inferred that entrainment of young walleyes through the project's turbine and

3. **Fish entrainment and installation of a seasonal barrier net.** Commission staff held a telephone conference call, September 15, 1994 with representatives from the WDNR, U.S. Fish and Wildlife Service (FWS), and Northern States to resolve the differences relating to fish protection. We revised Section V.C.2.c., to reflect the discussions of the 10(j) meeting.

spillways adversely affected recruitment, and those losses to recruitment in turn suppressed the adult population density below regional norms. We disagree with Northern States Power's contention that the strength of all the other fish populations in Lake Hayward strongly implies that entrainment is not a significant problem because it is illogical to presume that walleyes would be differentially affected by entrainment. To the contrary, recent entrainment studies indicated that walleyes are more prone to entrainment than other species. At the Crowley Hydro Project on the Flambeau River walleyes comprised 41% of the total annual entrainment estimate.[2] Also, in the **Draft Environmental Assessment** for the Hayward Hydro, the Commission staff cited Jernejcic's observations that the movement of young walleyes through Tygart Dam in West Virginia was probably selective to walleyes in that no other species exhibited similar movement patterns.[3]

In the **Draft Environmental Assessment** your staff agreed that fish escapement is likely occurring, and that this loss may have a detrimental effect on the walleye population in Lake Hayward. In their subsequent recommendation, however, they explained that the agencies have not provided persuasive evidence to demonstrate that the recommended barrier net will provide substantial benefits to the fishery of Lake Hayward. In the absence of the site specific entrainment data for the Hayward Project, we wish to present figures from entrainment studies conducted at other hydro projects. We offer this information to demonstrate that entrainment of young walleyes is a serious and widespread problem which dampens the walleye fisheries of small impoundments. We also wish to show that your staff's recommended alternative of maintaining the existing 1½-inch trashracks will not reduce losses to walleye recruitment caused by entrainment.

Hydroacoustic and tailrace netting assessments of fish entrainment at several hydroelectric projects in Wisconsin and Michigan have revealed similar patterns of high walleye entrainment in the spring. The hydroelectric projects where entrainment studies were conducted included the Little Quinnessec, White Rapids, and Park Mill hydro projects on the Menominee River, the Brule Project on the Brule River, and the Upper, Lower, Pixley, Crowley, and Thornapple projects on the North Fork and mainstem of the Flambeau River. For most of these investigations the Department expressed its serious concerns about the design, methods, procedures, and conduct of the studies which would ultimately compromise the quality of the results. Due to complications from undersampling, equipment failure, and not adjusting estimates for size specific net capture efficiency, we believe that many of these studies yielded inaccurate results that did not represent the real conditions. Nonetheless, the results revealed that episodes of high juvenile walleye entrainment were common to many of these projects. Considering the general similarities and differences among hydro projects, it stands to reason that there would be a similar trend of high numbers of young walleyes passing through the Hayward Project. The Department's analysis of several entrainment studies revealed that fish entrainment is site specific, episodic, and highly variable, both among projects and among the turbine units within the same project. Consequently, we do not recommend the application of the numerical results from one entrainment study to other projects.

Although we hold strong reservations about transferring results of entrainment studies among projects to determine the extent of entrainment and turbine mortality, it may be possible to relate tendencies which are common to many projects. We will present information from the entrainment studies at the Crowley and Thornapple hydros to support our original recommendation for a barrier net at the Hayward Project. Our analysis of the data collected in the entrainment study at the Crowley Hydro Project demonstrates that walleyes make up a large proportion of all fish entrained annually. Of the 69,439 fish estimated to pass through one of the project's two turbines, 28,252 (41%) were walleyes. Most of the walleyes that passed through the turbine at the Crowley project were young-of-the-year fish. The length-frequency distribution showed 93% of the walleyes collected in the tailrace net sample were less than 3 inches in total length, and 69% were less than 2 inches long (Figure 1). The single episode of high walleye

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[2]This figure represents a minimum estimate because samples were not adjusted for size specific net capture efficiency. Net capture efficiency could be as low as 10 - 15%, depending on the size and shape of the species. The 41% estimate was based on projections from tailrace net samples collected from one of the two turbines at the project. The estimate does not include fish entrained through the second turbine or through the spillway gates.

[3]Jernejcic, F. 1986. Walleye migration through Tygart Dam and angler utilization of the resulting tailwater and lake fisheries. pp. 294-300 in G.E. Hall and M.J. Van Den Avyle (editors), Reservoir Fisheries Management: Strategies for the 80's. Reservoir Committee, Southern Division American Fisheries Society, Bethesda, Maryland.

entrainment was relatively short in duration. The vast majority of walleye entrainment at the Crowley Hydro Project took place at night in late May, June, and early July (Figures 2 & 3). The Thornapple Hydro Project has an impoundment size (295 acres) and trashrack spacing (1.69-inch) similar to the Hayward Project. At Thornapple, walleyes comprised 9% of the actual number of fish collected in the tailrace net sample, and most of the annual wOalleye entrainment occurred in May. About 68% of all fish entrained at the Thornapple Project were less than 4 inches long, and 59% were in the size range of juvenile walleye, i.e. between 2.0 and 3.9 inches long. We believe that the proportion of walleyes in the total catch was actually higher than estimated for several reasons. Sampling for 72 continuous hours each month may not have adequately represented the episodic nature of young-of-the-year walleye entrainment. It is highly possible that large numbers of juvenile walleyes passed through the Thornapple Project between successive sampling periods in late spring and early summer. Secondly, the 9% figure was computed before the monthly estimates were expanded to the annual projection.

Despite the misgivings that we have concerning the entrainment studies at Crowley, Thornapple, and elsewhere, the results illustrate that entrainment of juvenile walleyes is commonplace at small impoundments. We would expect a similar occurrence at the Hayward Project. Because most of the fish that were entrained at the Crowley and Thornapple projects were less than 3 inches long and because the trashrack spacing at Thornapple is similar to the spacing at the Hayward Project, it is illogical to conclude that Northern States proposal to maintain the existing 1¾-inch trashracks would provide adequate protection against entrainment. The size and shape of juvenile walleyes would require a small mesh barrier with clear spacing less than 3/8 inches to afford even minimal protection against entrainment.

Our original recommendation for a seasonal barrier net to protect juvenile walleyes from entrainment was intended to be an adaptive management strategy to improve the walleye population in Lake Hayward. The Department would evaluate the effectiveness of the barrier net for improving the walleye fishery within six years of the initial installation. The evaluation criterion would be sufficient survival of juvenile walleyes to increase the walleye stock in Lake Hayward from the present 1 adult/acre to about 3 adults/acre. The 6-year timeframe would permit us to monitor at least one walleye cohort from fingerlings to adults. There is a strong likelihood that a barrier net could be successfully employed to reduce entrainment at the Hayward Project. The configuration of the project and the low water velocity at the plant's single intake structure make the site well suited for deploying a barrier net at the powerhouse. We also believe that the performance standard of 3 walleye adults/acre can be achieved by reducing entrainment with a barrier net system, even if the net does not provide 100% protection against the loss of juvenile walleyes. We acknowledge the argument in the Draft Environmental Assessment that some walleyes would continue to move downstream through the spillway even if a barrier net was installed at the project intake. The purpose of the barrier net is to reduce, not eliminate, fish entrainment. Based on the numbers of juvenile walleyes counted in entrainment studies at other small hydro projects, we estimate that there is a 90% loss to walleye recruitment from entrainment at Lake Hayward. Considering that 3 adult walleyes/acre is about the average density for water in this region, we believe that our performance standard of 3 adults/acre could be attained if recruitment losses dropped to 30% or less. Although we are confident that installing a barrier net would reduce entrainment and improve the walleye fishery in Lake Hayward, if the follow-up evaluation revealed that the net did not achieve the expected performance standard, then we would recommend discontinuing the future use of the net system.

We also have several remarks on the cost analysis which was used to balance the developmental and nondevelopmental uses of the waterway. According to the Draft Environmental Assessment installation and maintenance of a barrier net would cost Northern States Power about $12,000 annually over the 30-year term of their next license. We believe that the $8,000 annual cost estimate which Northern States Power submitted for the purchase, installation, maintenance/monitoring of the net system was grossly exaggerated. The $12,000/year estimate that the Commission used in the Draft Environmental Assessment overestimated the cost even further. We are certain that our recommendation can be implemented for far less than the $360,000 total cost estimate. We offer the following explanation for this assertion. We will not dispute the $1500 cost for the initial purchase of the barrier net system, although we believe that an adequate system can be designed and constructed for less than $1500. It may be possible to attain adequate entrainment protection without full coverage of the water column. If the webbing of the net does not have to extend from the top to the bottom of the water column, additional savings in material costs could be realized. However, we will argue that it will not be necessary to purchase a new net every year. The barrier net that we envisioned should be reusable for many years, especially since it would be deployed for only about 2 months each year. Nylon nets that are treated with a preservative tar or plastic coating are extremely durable. Some commercial fisherman have had the same nylon nets in service for longer than 30 years. With proper care the net that we envisioned may need replacement only once or twice during the course of the license. We also challenge the $6,500/year cost for installing and maintaining the barrier net. The net system should be designed to minimize installation and monitoring costs, and we offered our expertise to help Northern States design an efficient system. There are numerous design options which would reduce the cost of annual installation and maintenance. For instance, the barrier net could be deployed from a cable suspended near the surface. Annual installation and routine maintenance of such a net system would be facilitated by drawing and retracting the net on the cable, in a manner similar to the way a stage curtain operates. Natural debris loading should not present a major difficulty during the late spring season when the net would be in use. We anticipate that diver inspections probably would be necessary only occasionally, or not at all.

We also want to clarify the apparent misapprehension over who would be responsible for evaluating the effectiveness of the barrier net. Our recommendation for entrainment protection included a qualification that the barrier net's effectiveness shall be evaluated by the Department with a report provided by December 31, 2000. The statement in the second paragraph on page 26 of the Draft Environmental Assessment accurately explains our original recommendation. In the economic analysis on page 55, however, the cost of the effectiveness studies was charged to Northern States Power to demonstrate that the economic costs to install a barrier net system are not warranted:

> "In addition to our estimated $12,000 for the barrier net, effectiveness studies could cost Northern States as little as $25,000 per year and as much as $50,000 per year over a five year period."

Aside from the fact that the $125,000-$250,000 cost estimate for the evaluation studies was highly escalated, Northern States Power would not incur those costs. The Department has assumed responsibility for conducting and financing the fisheries surveys to assess the utility of the net system as entrainment protection. Those survey projects have already been included in the Department's long range work and budget planning process. Because Northern States Power will not share fiscal responsibility for the effectiveness studies, funding for those evaluations should not be included in the analysis to balance the cost of mitigation with the benefits to the fishery.

We ask the Commission to reassess the economic analysis for entrainment protection using more reasonable costs. Our recommendation for a barrier net should provide substantial benefits to the fishery and recreational opportunities at Lake Hayward. An important sport fishery will realize a 200% increase if the performance standard of 3 adult walleyes per acre is achieved. An improved walleye fishery will create more quality fishing trips in a locale which is famous for world class sport fishing. We believe that when accurate and reasonable cost estimates are applied, the long term values gained from a properly designed barrier net system do indeed outweigh the costs.

Concerning the possibility of predation and interspecific competition as alternative explanations for the poor abundance of walleyes in Lake Hayward, we offer the following response to the discussion in the Draft Environmental Assessment. Predation probably is another source of mortality for walleyes, especially those in the 2-inch length class. However, as evidenced in the 1990 fishery survey, there is also an abundant supply of alternative prey in this system. We know of no literature citations for studies that showed selective predation on walleye by any predator in a diverse, food-rich ecosystem like the one in Lake Hayward. For the same reason, we doubt that interspecific competition is a plausible rationalization for the subaverage walleye density in Lake Hayward. Again, Lake Hayward contains an ample and diverse forage base. There is no evidence that shared resources are limited and in short supply. Furthermore, the growth rate and condition of walleyes do not support the hypothesis that interspecific competition is limiting the population size.

We examined several alternatives to our recommendation for a fish barrier net. One option would be to collect site specific entrainment data to quantify losses at the Hayward Project. A well designed, on-site investigation would provide the compelling evidence which we now lack to either confirm or dispel our assumption that significant numbers of young walleyes pass through the project each spring. At this time, however, we believe that it is not prudent to request additional study because the trends observed in other studies can be applied to the Hayward Project, and because entrainment studies can be expensive and time consuming. We also considered reduced trashrack spacing to accomplish the same objective as the seasonal barrier net. To reduce entrainment of juvenile walleyes, trashrack spacing would have to be on the order of about 1/4 - 3/8 inches apart, and this narrow spacing would curtail power generation by decreasing flow and operating head. We rejected this alternative because the costs associated with lost generation and modification or replacement of the existing trashracks would certainly be greater than the cost of implementing our recommendation for a barrier net. We would be receptive to a recommendation which provided upstream and downstream fish passage to achieve or surpass the same resource management goals that the fish barrier net would attain. In fact, restoration of fish movement dynamics is our preferred strategy for improving a river system's fishery and benthic community. We support the Commission's statements on fish passage in the section of the Draft Environmental Assessment which addresses cumulative impacts:

> "In addition, the licensee may add fish passage facilities and/or additional fish protection measures to the project in the future to enhance the fishery resources in the Saint Croix River Basin. Incorporating these protection and enhancement measures would minimize the project's contribution to cumulative effects on the recreational fisheries in the Saint Croix River Basin."

In summary, we agree with the Commission's conclusion that continued operation of the Hayward Project would cause long term loss of resident fishes from Lake Hayward due to entrainment and turbine-induced mortality. We also agree that project operation without entrainment protection will continue to have cumulative adverse impacts on the aquatic resources of the Saint Croix/Namekagon river system. We do not agree that these losses and impacts are minor, nor are they unavoidable. We contend that the walleye density in Lake Hayward is below regional averages because of losses of juvenile fish from entrainment. We believe that entrainment losses can be reduced with a seasonal barrier net. Successful application of a barrier at the Hayward Project is feasible at a reasonable cost. Reduction of losses to entrainment would provide substantial benefits to the fishery in the form of an improved walleye fishery and better fishing opportunities. Our recommendation is virtually identical to the proposal that the applicant made in early consultations. Finally, the value of the anticipated benefits of our recommendation for a barrier net system as entrainment protection outweigh the cost of its reasonable implementation.

We appreciate the opportunity to convey our comments on the Draft Environmental Assessment. We look forward to resolving our differences on those recommendations which the Commission has determined to be inconsistent with the purposes and requirements of the Federal Power Act. If after considering these comments and additional information, you determine that there are still inconsistencies in our recommendations, then we would like to discuss our differences with you and your staff. Please notify us of your subsequent determination on these issues before the end of the 10j process. We would prefer a meeting to a telephone conference. Our past experiences with 10j resolutions have shown that face-to-face meetings were more productive than conference calls. If you or your staff have any questions about our concerns, please contact me at our Area Headquarters in Park Falls at (715) 762-3204.

Sincerely,

Jeffrey Wm. Scheirer

Jeffrey Wm. Scheirer
River System Manager

cc Fred E. Springer, Director, Division of Project Review, Office of Hydropower Licensing, Federal Energy Regulatory Commission, Room 1027, 825 North Capitol Street, N.E., Washington D.C. 20426.

Michael J. Cain, Wisconsin Department of Natural Resources, 101 South Webster Street, P. O. Box 7921, Madison, WI 53707

Bill Clark, Wisconsin Department of Natural Resources, Spooner

Anthony G. Schuster, Lloyd D. Everhart, John P. Moore, Jr.; Northern States Power Company (WI), 100 North Barstow Street, P. O. Box 8, Eau Claire, WI 54702-008.

Gary R. Johnson, Northern States Power Company (MN), 414 Nicollet Mall, Minneapolis, MN 55401.

Thomas A. Baird, Michigan Hydro Relicensing Coalition, White, Beekman Przybylowicz, 2300 Jolly Oak Road, Okemos, MI 48864.

Janet Smith, U.S. Fish and Wildlife Service, 1015 Challenger Court, Green Bay, WI 54311.

Angela Tornes, National Park Service, 310 West Wisconsin Avenue, Room 500, Milwaukee, WI 53203.

Anthony L. Andersen, Superintendent, National Park Service, St. Croix National Scenic Riverway, P. O. Box 708, St. Croix Falls, WI 54024.

Karen Vermillion, Great Lakes Fish and Wildlife Commission, P.O. Box 9, Odanah, WI 54861.

Paul Hansen, Director, Izaak Walton League of America, Inc., Midwest Regional Office, 5701 Normandale Road, Suite 210, Minneapolis, MN 55424.

COPY

United States Department of the Interior
NATIONAL PARK SERVICE
ST. CROIX NATIONAL SCENIC RIVERWAY
P.O. BOX 708
ST. CROIX FALLS, WISCONSIN 54024

IN REPLY REFER TO:

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August 31, 1994

A7615(SACN)
L76(SACN)

Honorable Lois D. Cashell
Secretary, Federal Energy Regulatory Commission
825 North Capitol Street, N.E.
Washington, D.C. 20426

Dear Secretary Cashell:

Thank you for the opportunity to comment on the DRAFT ENVIRONMENTAL ASSESSMENT FOR HYDROPOWER LICENSE, Hayward Hydroelectric Project FERC Project No. 217 Wisconsin.

1. Page 14. We believe correct interpretation of the flow duration data for the Hayward project site would indicate that at the project's minimum capacity of 120 cubic feet per second (cfs), the project would be shut down approximately 10 percent of the time due to insufficient streamflow. The Draft Environmental Assessment (DEA) states it would be less than one percent of the time.

2. Page [illegible]. We appreciate the FERC staff's recommendation that fly ash used in sealing the stop-log spillway at Hayward be analyzed for chemical composition. We further recommend that this analysis be conducted prior to the time the fly ash/cinders are introduced into the reservoir.

3. Page 19, FERC recommendation: We strongly urge that recommendation three be modified to express the recommendation in Jonathan P. Deason's letter of September 23, 1993 to you, page 6, item 1.A. which states: "The licensee shall not operate the project between the low and high ends of the operating range on a daily basis as this would constitute a peaking operation..." We fully support this recommendation.

4. Page 20, paragraphs 3 and 4. We continue to support the recommendation (see item 4.C., page 8, of Deason's letter of 9/23 quoted in the above para.) that if it proves necessary, the applicant will install U.S. Geological Survey (USGS) flow gauges both upstream and downstream of the project. We firmly believe this item should be included in the FERC license with the potential to be a future condition of the license.

5. Page 21, para. 1, item 4(iii). We request the elevation and flow data reports be sent to the St. Croix National Scenic Riverway office on a quarterly basis, or more frequently if requested.

1. We agree, see revised section V.C.1.

2. We agree, see revised section V.C.1.a.

3. We agree, see revised section V.C.1.b.

4. While staff agrees that streamflow gaging is needed at the Hayward Project to monitor compliance with run-of-river operation, we continue to disagree with the need for a license condition that would require installation of a U.S. Geological Survey (USGS) streamflow gaging station if needed in the future. Should a USGS gaging station be required in the future, the WDNR and the Department of the Interior, on behalf of the FWS and the National Park Service, can request additional streamflow gaging measures at that time under the provisions of the standard articles included in any license issued for the Hayward Project. WDNR and FWS concur with this conclusion, as no comments disagreeing with the approach described in the draft environmental assessment (DEA) were filed.

5. We agree, see revised section V.C.1.d.

6. Page 25, para 2 of item c., Fish protection: We are unsure what the 25 percent and 20 percent refer to in the discussion of fish mortality caused by entrainment. Please clarify if this is in reference to the total number of fish passing through the system or of the local population of a fish species.

7. Page 29, FERC recommendation: We are not convinced that FERC has demonstrated entrainment is not the cause of the limited walleye population in the reservoir. We continue to support the U.S. Fish and Wildlife Service recommendation which calls for installing a barrier net.

8. Page 38, FERC recommendation on drawdown. We believe that sediment monitoring as well as monitoring sensitive biological resources should be required in the event of a non-emergency drawdown. Roughly calculated, a drop of one inch in four hours over the entire 247-acre reservoir would require a flow of approximately 62 cfs over and above the flow coming into the reservoir (we emphasize these are very rough calculations). Regardless, the flow escaping from the outlet pipe would quite probably be highly erosive to the riverbed. Another significant concern is the sediment which would be pulled off the reservoir bottom and carried downstream. These concerns warrant planned monitoring of water quality and biological resources in the event of a drawdown.

9. Page 44. We support your findings and conclusions stated on page 45. The portage needs to be improved with planning and development to facilitate portage use by physically-challenged canoeists. However, I question if the ADA standard should be applied at the portage around the dam. A paved trail is not in keeping with the primitive nature which the managing agencies practice on the Namekagon River. Perhaps there are other alternatives. In our experience, physically-challenged river users are seeking the primitive nature the river presents. They accept the challenge and risk that canoe travel offers. It is important that wherever feasible, rivers managers remove the barriers to access for physically-challenged canoeists without destroying the resource they are trying to protect. The "Universal Access to Outdoor Recreation: A Design Guide" would be a better standard or guide to follow for this application. The National Park Service will assist Wisconsin DNR and Northern States Power Company as a plan incorporating and balancing goals of accessibility and resource protection is developed.

Sincerely,

Anthony L. Andersen
Superintendent

Enclosure

6. The fish mortality rates identified on page 25, paragraph 2, item c of the DEA (25 percent and 20 percent) are not associated with any mortality studies conducted at the Hayward Project. The mortality rates cited in the DEA are based on several studies conducted at other projects in the midwest, which are summarized in Electric Power Research Institute (1992), and reflect the average turbine-specific mortality for a particular fish species. For example, the mortality for centrarchids (i.e., blackbass and sunfish) passing through a Francis-type turbine averages about 12 percent, where as the average mortality for perch and walleye passing through a Francis generating unit is about 24 percent.

7. Commission staff held a telephone conference call, September 15, 1994 with representatives from the WDNR, FWS, and Northern States to resolve the differences relating to fish protection. We revised Section V.C.2.c., to reflect the discussions of the 10(j) meeting.

8. Comment noted, see revised section V.C.3.d.

9. We agree, see revised section V.C.6.a.

SUMMARY OF THE 10(J) MEETING FOR THE HAYWARD PROJECT (FERC No. 2417-001) HELD ON SEPTEMBER 15, 1994 AT THE FEDERAL ENERGY REGULATORY COMMISSION, ROOM 1040, 810 1ST ST., NE, WASHINGTON, D.C. 20426

On September 15, 1994, the staff from the Federal Energy Regulatory Commission (staff) held a teleconference meeting with representatives from Northern States Power Company (NSP), the Wisconsin Department of Natural Resources (WDNR), and the U.S. Fish and Wildlife Service. The teleconference meeting was held in attempt to resolve inconsistencies between fish and wildlife recommendations and requirements of the Federal Power Act (FPA), pursuant to Section 10(j) of the FPA.

A list of participants is appended to this summary. The 10(j) issues discussed were previously described in the staff's Draft Environmental Assessment for the Hayward Hydroelectric Project, issued June 16, 1994.

Section 10(j) issues:

Drawdown Management Plan for Control of Noxious Weeds

The staff attempted to resolve two issues relative to the Drawdown Management Plan: (1) the duration of the drawdown and (2) monitoring of sediments and sensitive biological resources.

Duration of the drawdown - NSP favored a 30-day drawdown period while WDNR recommended a 5.5-month drawdown period. The staff asked WDNR if the 5.5-month period could be shortened. NSP commented that shorter drawdown periods have been used in the past at other projects (Oswego and Trego) and have proved successful in controlling submerged aquatic weeds. WDNR, on the other hand, commented that the reservoir needs to be drawn down early enough in the year (i.e., late fall or early winter) to freeze the sediments and aquatic weeds. Typically this would occur in late fall (i.e., mid October) and would extend to April (5.5-month period). The WDNR indicated that if the reservoir were to get any weedier that certain fish populations would probably become stunted. The WDNR also stated that it has had complaints from the public on the excess aquatic vegetation, mainly from lakeshore owners. However, the WDNR stated that it didn't have any data to substantiate the apparently increasing weed problem.

Although we did not come to an agreement on a drawdown period shorter than the WDNR's requested 5.5-month period, the WDNR seems to be willing to consider a shorter period.

Monitoring of sediments and sensitive biological resources - The WDNR stated that monitoring of sensitive biological species and sediments was needed during a reservoir drawdown, and recommended that such monitoring be included in the

Drawdown Management Plan. The WDNR cited concerns relative to contaminated sediments, and stated that the Drawdown Management Plan should allow for adaptive management (i.e., flexibility to make adjustments depending on initial results). NSP indicated that requiring them to monitor sensitive biological species and sediments is unreasonable.

Although neither NSP nor the WDNR wanted to take full responsibility for monitoring, they are willing to cooperate in the monitoring of sensitive biological species and sediments during any planned drawdown.

Regarding both issues of the Drawdown Management Plan, the staff will include a license article designated to allow a cooperative agreement between the WDNR and NSP.

Barrier Net

The WDNR continued to recommend a barrier net at the powerhouse intake to deter walleye movement downstream and improve the walleye fishery in Hayward Lake. WDNR commented that although there is limited natural production of walleye in Hayward Lake, the lake is well suited for walleye. The WDNR also stated that a barrier net would help increase the walleye fishery from 1 fish per acre to 3 fish per acre, with no significant negative biological impacts on the other fisheries. NSP stated it has found barrier nets (3/8 to 1/2-inch size) to be very effective, but has had very little experience with barrier nets in Wisconsin.

WDNR offered its expertise in helping set up a barrier net. NSP also was concerned about the cost of maintaining a barrier net. WDNR indicated that the state would be open to maintaining the net, but could not guarantee it. WDNR also mentioned that a local walleye conservation group might be willing to help maintain the net. NSP indicated a willingness to purchase and install a barrier net if WDNR agreed to maintain the net.

The staff was agreeable to a cost-share approach to installing and maintaining the seasonal barrier net. NSP agreed to provide the staff within 1 week, various cost information, including the cost-share agreement with the WDNR for the barrier net, for the staff to analyze.

Reservoir Operating Range

The WDNR stated that it could live with a 0.5-foot band of reservoir water level fluctuation for project operation, but the Final Environmental Assessment would have to state that the variation is not for peaking operation. The staff agreed.

Attendees at the 10(j) teleconference meeting for the Hayward Hydroelectric Project (FERC No. 2417-001)
September 15, 1994

NAME	AFFILIATION	PHONE NUMBER
Mary Golato	FERC	(202) 219-2804
John Novak	FERC	(202) 219-2828
Ethel Morgan	FERC	(202) 208-0450
Richard McGuire	FERC	(202) 219-3084
David Zehner	FERC	(202) 219-2820
Patrick Murphy	FERC	(202) 219-2659
Allan Creamer	FERC	(202) 219-0635
Eddie Crouse	FERC	(202) 219-2794
Lloyd Everhart	NSP	(715) 839-2692
Christopher Olson	NSP	(715) 839-2692
Robert Olsen	NSP	(715) 839-2692
Frank Pratt	WDNR	(715) 634-2688
Jeffrey Scheirer	WDNR	(715) 762-3204
Frank Koshere	WDNR	(715) 635-2101
Larry O'Borny	FWS	(414) 433-3803

Form L-3
(October, 1975)

FEDERAL ENERGY REGULATORY COMMISSION

TERMS AND CONDITIONS OF LICENSE FOR CONSTRUCTED
MAJOR PROJECT AFFECTING NAVIGABLE
WATERS OF THE UNITED STATES

Article 1. The entire project, as described in this order of the Commission, shall be subject to all of the provisions, terms, and conditions of the license.

Article 2. No substantial change shall be made in the maps, plans, specifications, and statements described and designated as exhibits and approved by the Commission in its order as a part of the license until such change shall have been approved by the Commission: Provided, however, That if the Licensee or the Commission deems it necessary or desirable that said approved exhibits, or any of them, be changed, there shall be submitted to the Commission for approval a revised, or additional exhibit or exhibits covering the proposed changes which, upon approval by the Commission, shall become a part of the license and shall supersede, in whole or in part, such exhibit or exhibits theretofore made a part of the license as may be specified by the Commission.

Article 3. The project area and project works shall be in substantial conformity with the approved exhibits referred to in Article 2 herein or as changed in accordance with the provisions of said article. Except when emergency shall require for the protection of navigation, life, health, or property, there shall not be made without prior approval of the Commission any substantial alteration or addition not in conformity with the approved plans to any dam or other project works under the license or any substantial use of project lands and waters not authorized herein; and any emergency alteration, addition, or use so made shall thereafter be subject to such modification and change as the Commission may direct. Minor changes in project works, or in uses of project lands and waters, or divergence from such approved exhibits may be made if such changes will not result in a decrease in efficiency, in a material increase in cost, in an adverse environmental impact, or in impairment of the general scheme of development; but any of such minor changes made without the prior approval of the Commission, which in its judgment have produced or will produce any of such results, shall be subject to such alteration as the Commission may direct.

Article 4. The project, including its operation and maintenance and any work incidental to additions or alterations authorized by the Commission, whether or not conducted upon lands of the United States, shall be subject to the inspection and supervision of the Regional Engineer, Federal Energy Regulatory Commission, in the region wherein the project is located, or of such other officer or agent as the Commission may designate, who shall be the authorized representative of the Commission for such purposes. The Licensee shall cooperate fully with said representative and shall furnish him such information as he may require concerning the operation and maintenance of the project, and any such alterations thereto, and shall notify him of the date upon which work with respect to any alteration will begin, as far in advance thereof as said representative may reasonably specify, and shall notify him promptly in writing of any suspension of work for a period of more than one week, and of its resumption and completion. The Licensee shall submit to said representative a detailed program of inspection by the Licensee that will provide for an adequate and qualified inspection force for construction of any such alterations to the project. Construction of said alterations or any feature thereof shall not be initiated until the program of inspection for the alterations or any feature thereof has been approved by said representative. The Licensee shall allow said representative and other officers or employees of the United States, showing proper credentials, free and unrestricted access to, through, and across the project lands and project works in the performance of their official duties. The Licensee shall comply with such rules and regulations of general or special applicability as the Commission may prescribe from time to time for the protection of life, health, or property.

Article 5. The Licensee, within five years from the date of issuance of the license, shall acquire title in fee or the right to use in perpetuity all lands, other than lands of the United States, necessary or appropriate for the construction maintenance, and operation of the project. The Licensee or its successors and assigns shall, during the period of the license, retain the possession of all project property covered by the license as issued or as later amended, including the project area, the project works, and all franchises, easements, water rights, and rights or occupancy and use; and none of such properties shall be voluntarily sold, leased, transferred, abandoned, or otherwise disposed of without the prior written approval of the Commission, except that the Licensee may lease or otherwise dispose of interests in project lands or property without specific written approval of the Commission pursuant to the then current regulations of the Commission. The provisions of this article are not intended to prevent the abandonment or the retirement from service of structures, equipment, or other project works in connection with replacements thereof when they become obsolete, inadequate, or inefficient for further service due to wear and tear; and mortgage or trust deeds or judicial sales made thereunder, or tax sales, shall not be deemed voluntary transfers within the meaning of this article.

Article 6. In the event the project is taken over by the United States upon the termination of the license as provided in Section 14 of the Federal Power Act, or is transferred to a new licensee or to a non-power licensee under the provisions of Section 15 of said Act, the Licensee, its successors and assigns shall be responsible for, and shall make good any defect of title to, or of right of occupancy and use in, any of such project property that is necessary or appropriate or valuable and serviceable in the maintenance and operation of the project, and shall pay and discharge, or shall assume responsibility for payment and discharge of, all liens or encumbrances upon the project or project property created by the Licensee or created or incurred after the issuance of the license: Provided, That the provisions of this article are not intended to require the Licensee, for the purpose of transferring the project to the United States or to a new licensee, to acquire any different title to, or right of occupancy and use in, any of such project property than was necessary to acquire for its own purposes as the Licensee.

Article 7. The actual legitimate original cost of the project, and of any addition thereto or betterment thereof, shall be determined by the Commission in accordance with the Federal Power Act and the Commission's Rules and Regulations thereunder.

Article 8. The Licensee shall install and thereafter maintain gages and stream-gaging stations for the purpose of determining the stage and flow of the stream or streams on which the project is located, the amount of water held in and withdrawn from storage, and the effective head on the turbines; shall provide for the required reading of such gages and for the adequate rating of such stations; and shall install and maintain standard meters adequate for the determination of the amount of electric energy generated by the project works. The number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, shall at all times be satisfactory to the Commission or its authorized representative. The Commission reserves the right, after notice and opportunity for hearing, to require such alterations in the number, character, and location of gages, meters, or other measuring devices, and the method of operation thereof, as are necessary to secure adequate determinations. The installation of gages, the rating of said stream or streams, and the determination of the flow thereof, shall be under the supervision of, or in cooperation with, the District Engineer of the United States Geological Survey having charge of stream-gaging operations in the region of the project, and the Licensee shall advance to the United States Geological Survey the amount of funds estimated to be necessary for such supervision, or cooperation for such periods as may mutually agreed upon. The Licensee shall keep accurate and sufficient records of the foregoing determinations to the satisfaction of the Commission, and shall make return of such records annually at such time and in such form as the Commission may prescribe.

Article 9. The Licensee shall, after notice and opportunity for hearing, install additional capacity or make other changes in the project as directed by the Commission, to the extent that it is economically sound and in the public interest to do so.

Article 10. The Licensee shall, after notice and opportunity for hearing, coordinate the operation of the project, electrically and hydraulically, with such other projects or power systems and in such manner as the Commission any direct in the interest of power and other beneficial public uses of water resources, and on such conditions concerning the equitable sharing of benefits by the Licensee as the Commission may order.

Article 11. Whenever the Licensee is directly benefited by the construction work of another licensee, a permittee, or the United States on a storage reservoir or other headwater improvement, the Licensee shall reimburse the owner of the headwater improvement for such part of the annual charges for interest, maintenance, and depreciation thereof as the Commission shall determine to be equitable, and shall pay to the United States the cost of making such determination as fixed by the Commission. For benefits provided by a storage reservoir or other headwater improvement of the United States, the Licensee shall pay to the Commission the amounts for which it is billed from time to time for such headwater benefits and for the cost of making the determinations pursuant to the then current regulations of the Commission under the Federal Power Act.

Article 12. The United States specifically retains and safeguards the right to use water in such amount, to be determined by the Secretary of the Army, as may be necessary for the purposes of navigation on the navigable waterway affected; and the operations of the Licensee, so far as they affect the use, storage and discharge from storage of waters affected by the license, shall at all times be controlled by such reasonable rules and regulations as the Secretary of the Army may prescribe in the interest of navigation, and as the Commission may prescribe for the protection of life, health, and property, and in the interest of the fullest practicable conservation and utilization of such waters for power purposes and for other beneficial public uses, including recreational purposes, and the Licensee shall release water from the project reservoir at such rate in cubic feet per second, or such volume in acre-feet per specified period of time, as the Secretary of the Army may prescribe in the interest of navigation, or as the Commission may prescribe for the other purposes hereinbefore mentioned.

Article 13. On the application of any person, association, corporation, Federal agency, State or municipality, the Licensee shall permit such reasonable use of its reservoir or other project properties, including works, lands and water rights, or parts thereof, as may be ordered by the Commission, after notice and opportunity for hearing. in the interests of comprehensive development of the waterway or waterways involved and the conservation and utilization of the water resources of the region for water supply or for the purposes of steam-electric, irrigation, industrial, municipal or similar uses. The Licensee shall receive reasonable compensation for use of its reservoir or other project properties or parts thereof for such purposes, to include at least full reimbursement for any damages or expenses which the joint use causes the Licensee to incur. Any such compensation shall be fixed by the Commission either by approval of an agreement between the Licensee and the party or parties benefiting or after notice and opportunity for hearing. Applications shall contain information in sufficient detail to afford a full understanding of the proposed use, including satisfactory evidence that the applicant possesses necessary water rights pursuant to applicable State law, or a showing of cause why such evidence cannot concurrently be submitted, and a statement as to the relationship of the proposed use to any State or municipal plans or orders which may have been adopted with respect to the use of such waters.

Article 14. In the construction or maintenance of the project works, the Licensee shall place and maintain suitable structures and devices to reduce to a reasonable degree the liability of contact between its transmission lines and telegraph, telephone and other signal wires or power transmission lines constructed prior to its transmission lines and not owned by the Licensee, and shall also place and maintain suitable structures and devices to reduce to a reasonable degree the liability of any structures or wires falling or obstructing traffic or endangering life. None of the provisions of this article are intended to relieve the Licensee from any responsibility or requirement which may be imposed by any other lawful authority for avoiding or eliminating inductive interference.

Article 15. The Licensee shall, for the conservation and development of fish and wildlife resources, construct, maintain, and operate, or arrange for the construction, maintenance, and operation of such reasonable facilities, and comply with such reasonable modifications of the project structures and operation, as may be ordered by the Commission upon its own motion or upon the recommendation of the Secretary of the Interior or the fish and wildlife agency or agencies of any State in which the project or a part thereof is located, after notice and opportunity for hearing.

Article 16. Whenever the United States shall desire, in connection with the project, to construct fish and wildlife facilities or to improve the existing fish and wildlife facilities at its own expense, the Licensee shall permit the United States or its designated agency to use, free of cost, such of the Licensee's lands and interests in lands, reservoirs, waterways and project works as may be reasonably required to complete such facilities or such improvements thereof. In addition, after notice and opportunity for hearing, the Licensee shall modify the project operation as may be reasonably prescribed by the Commission in order to permit the maintenance and operation of the fish and wildlife facilities constructed or improved by the United States under the provisions of this article. This article shall not be interpreted to place any obligation on the United States to construct or improve fish and wildlife facilities or to relieve the Licensee of any obligation under this license.

Article 17. The Licensee shall construct, maintain, and operate, or shall arrange for the construction, maintenance, and operation of such reasonable recreational facilities, including modifications thereto, such as access roads, wharves, launching ramps, beaches, picnic and camping areas, sanitary facilities, and utilities, giving consideration to the needs of the physically handicapped, and shall comply with such reasonable modifications of the project, as may be prescribed hereafter by the Commission during the term of this license upon its own motion or upon the recommendation of the Secretary of the Interior or other interested Federal or State agencies, after notice and opportunity for hearing.

Article 18. So far as is consistent with proper operation of the project, the Licensee shall allow the public free access, to a reasonable extent, to project waters and adjacent project lands owned by the Licensee for the purpose of full public utilization of such lands and waters for navigation and for outdoor recreational purposes, including fishing and hunting: Provided, That the Licensee may reserve from public access such portions of the project waters, adjacent lands, and project facilities as may be necessary for the protection of life, health, and property.

Article 19. In the construction, maintenance, or operation of the project, the Licensee shall be responsible for, and shall take reasonable measures to prevent, soil erosion on lands adjacent to streams or other waters, stream sedimentation, and any form of water or air pollution. The Commission, upon request or upon its own motion, may order the Licensee to take such measures as the Commission finds to be necessary for these purposes, after notice and opportunity for hearing.

Article 20. The Licensee shall clear and keep clear to an adequate width lands along open conduits and shall dispose of all temporary structures, unused timber, brush, refuse, or other material unnecessary for the purposes of the project which results from the clearing of lands or from the maintenance or alteration of the project works. In addition, all trees along the periphery of project reservoirs which may die during operations of the project shall be removed. All clearing of the lands and disposal of the unnecessary material shall be done with due diligence and to the satisfaction of the authorized representative of the Commission and in accordance with appropriate Federal, State, and local statutes and regulations.

Article 21. Material may be dredged or excavated from, or placed as fill in, project lands and/or waters only in the prosecution of work specifically authorized under the license; in the maintenance of the project; or after obtaining Commission approval, as appropriate. Any such material shall be removed and/or deposited in such manner as to reasonably preserve the environmental values of the project and so as not to interfere with traffic on land or water. Dredging and filling in a navigable water of the United States shall also be done to the satisfaction of the District Engineer, Department of the Army, in charge of the locality.

Article 22. Whenever the United States shall desire to construct, complete, or improve navigation facilities in connection with the project, the Licensee shall convey to the United States, free of cost, such of its lands and rights-of-way and such rights of passage through its dams or other structures, and shall permit such control of its pools, as may be required to complete and maintain such navigation facilities.

Article 23. The operation of any navigation facilities which may be constructed as a part of, or in connection with, any dam or diversion structure constituting a part of the project works shall at all times be controlled by such reasonable rules and regulations in the interest of navigation, including control of the level of the pool caused by such dam or diversion structure, as may be made from time to time by the Secretary of the Army.

Article 24. The Licensee shall furnish power free of cost to the United States for the operation and maintenance of navigation facilities in the vicinity of the project at the voltage and frequency required by such facilities and at a point adjacent thereto, whether said facilities are constructed by the Licensee or by the United States.

Article 25. The Licensee shall construct, maintain, and operate at its own expense such lights and other signals for the protection of navigation as may be directed by the Secretary of the Department in which the Coast Guard is operating.

Article 26. If the Licensee shall cause or suffer essential project property to be removed or destroyed or to become unfit for use, without adequate replacement, or shall abandon or discontinue good faith operation of the project or refuse or neglect to comply with the terms of the license and the lawful orders of the Commission mailed to the record address of the Licensee or its agent, the Commission will deem it to be the intent of the Licensee to surrender the license. The Commission, after notice and opportunity for hearing, may require the Licensee to remove any or all structures, equipment and power lines within the project boundary and to take any such other action necessary to restore the project waters, lands, and facilities remaining within the project boundary to a condition satisfactory to the

United States agency having jurisdiction over its lands or the Commission's authorized representative, as appropriate, or to provide for the continued operation and maintenance of nonpower facilities and fulfill such other obligations under the license as the Commission may prescribe. In addition, the Commission in its discretion, after notice and opportunity for hearing, may also agree to the surrender of the license when the Commission, for the reasons recited herein, deems it to be the intent of the Licensee to surrender the license.

Article 27. The right of the Licensee and of its successors and assigns to use or occupy waters over which the United States has jurisdiction, or lands of the United States under the license, for the purpose of maintaining the project works or otherwise, shall absolutely cease at the end of the license period, unless the Licensee has obtained a new license pursuant to the then existing laws and regulations, or an annual license under the terms and conditions of this license.

Article 28. The terms and conditions expressly set forth in the license shall not be construed as impairing any terms and conditions of the Federal Power Act which are not expressly set forth herein.

Document Content(s)

75 FERC ¶ 61,136

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Elizabeth Anne Moler, Chair;
Vicky A. Bailey, James J. Hoecker,
William L. Massey, and Donald F. Santa, Jr.

Northern States Power Company) Project No. 2417-002

ORDER ON REHEARING

(Issued May 1, 1996)

On September 1, 1995, the Director, Office of Hydropower Licensing (Director), issued a subsequent license to Northern States Power Company (Northern) for its 168-kilowatt Hayward Hydroelectric Project, located on the Namekagon River, in Sawyer County, Wisconsin. 1/ Northern and the State of Wisconsin Department of Natural Resources (Wisconsin DNR) have filed timely requests for rehearing. 2/ We are granting rehearing on some issues, amending and clarifying the license order in certain respects, and denying rehearing on the remaining issues, as discussed below.

WISCONSIN DNR'S REHEARING REQUEST

A. Retirement Fund

On rehearing, Wisconsin DNR expresses concern that, in view of the negative economic analysis presented in the Environmental Assessment (EA) on which the relicense order was based, 3/ Northern will decide to retire the project. Wisconsin DNR acknowledges that Northern currently has sufficient resources to provide for the retirement or long-term maintenance of the project, but notes that even strong companies can become bankrupt. Accordingly, Wisconsin DNR argues that funds for such

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1/ 72 FERC ¶ 62,204.

2/ On February 14, 1996, the Director, Division of Project Compliance and Administration, issued an order granting Northern States Power Company's request for an extension of time to comply with the license. The deadline for filing the plans required by Articles 401, 403, 404, 406, 407, 410, and 411 was extended to December 1, 1996. The deadline for filing the plans required by Articles 409 and 413 was extended to June 1, 1997.

3/ The EA is attached to the license order; see 72 FERC at pp. 64,632-78.

decommissioning should be set aside and considered as part of the cost of doing business, so the licensee can make an educated decision about whether to accept the new license for the project.

Wisconsin DNR also posits that Northern may decide to transfer the project to an entity which may not be financially capable of operating the project in compliance with the license, and that the costs associated with the project's eventual retirement could be passed to the citizens of the state.

In our December 14, 1994 Policy Statement on Project Decommissioning at Relicensing, 4/ we said that we would not generically impose decommissioning funding requirements on licensees, but that, in individual cases, there may be facts that would justify requiring such a fund. We stated that we would consider, for example, whether there are factors suggesting that the life of the project may end within the license term, and whether the financial viability of the licensee indicates that the licensee would be unable to meet likely levels of expenditure without some form of advance planning. While we believe the Hayward Project will be in operation through the end of the new license term, we have in any event no specific basis to question Northern's ability to finance decommissioning during the term. As to the question of transfers, our Policy Statement noted that we would examine proposed transfers of marginal projects with a view to the financial resources of the transferee. 5/ We will require Northern to give notice to Wisconsin DNR of any proposed license transfers. 6/

B. License Expiration Date

On June 2, 1994, we issued a subsequent license, effective June 1, to Northern for its Trego Project No. 2711, which is located 30 miles downstream of the Hayward Project. In order to facilitate the Commission's coordinated treatment of the two projects in the future, we added 18 months to the Trego Project license term to approximate the termination date of any new license subsequently issued for the Hayward Project. We noted that, depending on when the new Hayward Project license was

4/ See 60 Fed. Reg. 339, 346-47 (Jan.4, 1995); FERC Stats. & Regs. Preambles ¶ 31,011 at pp. 31,233-34 (Dec. 14, 1994).

5/ Policy Statement, supra, FERC Stats. & Regs. Preambles at pp. 31,232-33.

6/ See Wisconsin Electric Power Company, 75 FERC ¶ 61,011 (1996).

issued, we could add a few months to its term in order to coordinate the terminations. 7/

The expiration date of the Trego Project license is November 30, 2025. However, as Wisconsin DNR points out, the Hayward Project license, issued September 1, 1995, was erroneously given a termination date of December 31, 2025. 8/ We will therefore amend the expiration date for the Hayward Project license to November 30, 2025. 9/

C. Article 405: Minimum Flow Requirement

Article 405 of the license requires Northern to release a minimum flow of 8 cubic feet per second (cfs) into the 170-foot-long bypassed reach of the Namekagon River. 10/ Wisconsin DNR asks the Commission to clarify at what point this article must be complied with. 11/

License Article 406 requires Northern to enhance the aquatic habitat in the bypassed reach. The EA explains that, to benefit the fishery and other aquatic organisms, Northern has developed, in consultation with (among others) Wisconsin DNR, a plan to improve the flow characteristics of the bypassed reach by selective excavation and placement of boulders. 12/ We are amending Article 405 to clarify that, once the bypass work has been carried out, the minimum flow requirement will be in effect.

7/ Northern States Power Co., 67 FERC ¶ 61,282 at p. 61,966 n. 38.

8/ The license order incorrectly described the Trego Project license termination date as December 31, 2025. 72 FERC at pp. 64,623-24.

9/ The resulting license term is still more than 30 years, the minimum allowed by Section 15(e) of the FPA, 16 U.S.C. § 808(e).

10/ The 8 cfs approximates leakage flows, and the agencies agree it is adequate for the bypass reach. The new license makes the 8 cfs release continuous. EA, 72 FERC at pp. 64,646-47. Under the new license, Northern will continue to operate the project in a run-of-river mode.

11/ It does not indicate what that point should be.

12/ 72 FERC at p. 64,647.

D. Article 415: Standard Land Use Provision

License Article 415 is a standard land-use article that delegates to the licensee the authority, without prior Commission approval, to grant permission for certain types of use of project lands and waters and to convey certain interests in project lands and waters for certain types of use, pursuant to stipulated conditions. 13/ Wisconsin DNR asserts that the Federal Power Act (FPA) does not give the Commission the authority to supersede state and local regulations for activities unrelated to the dam and its operations. The agency asserts that a number of activities listed in Article 415 -- such as construction of a marina -- require state and local permits and therefore asks that the article be revised to state that activities permitted by the licensee need to obtain all necessary state and local approvals.

Wisconsin DNR misapprehends the scope of Part I of the FPA and of licenses issued thereunder. A licensed project encompasses a variety of beneficial public purposes other than the generation of power, including recreation, 14/ and the Commission's regulatory authority extends to all these project purposes. 15/ Under the Commission's policy on recreational development at licensed projects, licensees are required to coordinate with local, state, and federal agencies in determining local recreation needs and developing plans to meet those needs at the project. 16/ The recreation plans filed in license

13/ The article has been in use for over 15 years. See Brazos River Authority, 11 FERC ¶ 61,162 (1980).

14/ Section 10(a)(1) of the FPA, 16 U.S.C. § 803(a)(1) (1992), lists recreation as among the beneficial public purposes a licensed project should foster.

15/ See Puget Sound Power & Light Co., 54 FPC 157 (1975). It is also the Commission's role to review all proposed non-project uses of project lands and waters, and to determine which uses require (exclusively or among other permits) Commission approval and which uses are matters for state and local control. See, e.g., Alabama Power Company, 74 FERC ¶ 61,157 (1996). In this regard, Article 419(c) and (d) require state and local approvals for conveyances or leases of project lands for the construction, maintenance, or expansion of non-project-related bridges, roads, sewer lines, transmission lines, and the like.

16/ 18 C.F.R. § 2.7(c) (1995). Furthermore, licensees are required to comply with federal, state and local regulations for health, public sanitation, and public safety. 18 C.F.R. § 2.7(f).

applications are developed after extensive consultation with state and local agencies and interested entities. Article 415(e) requires consultation with state fish and wildlife and recreation agencies prior to many proposed conveyances, and requires that such conveyances be consistent with the licensee's approved recreation plan. Thus, subject to the Commission's ultimate decisionmaking responsibility and authority, Article 415 provides ample opportunity for state involvement in the use of project lands and waters. We deny rehearing on this issue.

NORTHERN'S REHEARING REQUEST

Northern seeks rehearing of eight license articles, asserting that each imposes unnecessary measures that are burdensome and costly and that, collectively, the articles jeopardize the economic viability of the 168-kW project and may cause Northern to surrender the license. 17/

A. Article 203: Dead Tree Removal

Article 203 requires the licensee "to remove all trees along the periphery of project reservoirs which may die during operations of the project." Northern seeks the deletion of this requirement, arguing that there is nothing in the record indicating a problem with dead or dying trees at the project, and that in any event trees falling into the reservoir provide habitat enhancement.

Article 203 duplicates Article 15 of the license, 18/ and will be deleted. The Commission has explained that the purpose of standard Article 15, which has been in use for over 50 years, is to require the removal from the reservoir and its perimeter of those dead trees that pose a hazard to project operations, public safety, or navigation; it does not require removal of dead trees that will not pose such hazards. 19/ Therefore, if dead trees

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17/ Based on cost estimates provided by Northern, the EA estimated the annual costs of the enhancements proposed to be required. 72 FERC at pp. 64,664-67. Many of the required measures were recommended by state and federal fish and wildlife agencies pursuant to Section 10(j) of the FPA.

18/ 72 FERC at p. 64,625, incorporating by reference Form L-9, 54 FPC 1852, 1856-57 (1975).

19/ *See*, *e.g.*, Montana Power Company and Granite County, Montana, 62 FERC ¶ 61,166 at p. 62,140 (1993), and cases cited therein. If Northern has any further questions on this matter, it should consult with the Commission staff.

in the project's waters pose none of these hazards, Article 15 will entail little, if any, burden or expense to Northern.

B. Article 401: Fly Ash and Cinders

To minimize leakage through the stop-logs that are used for the project's spillway, Northern seals small gaps between the stop-logs with fly ash, 20/ by means of a process called "cindering." License Article 401 requires Northern to file a plan to monitor the fly ash/cinders used during the cindering process to ensure that toxic compounds or contaminants are not thereby introduced into the Namekagon River. Northern argues that this article is unnecessary, inasmuch as in 1992, at Wisconsin DNR's prompting, Northern did an analysis of the fly ash/cinders stockpile used for all its cindering jobs, which showed the materials to be harmless. 21/ Northern contends that to require it annually to reanalyze the same stockpile, file the results, and develop needless mitigation measures with respect to the small amount of the materials it uses is completely unwarranted.

Article 401 was based on the recommendations submitted by Wisconsin DNR and the National Park Service 22/ pursuant to Section 10(j) of the FPA, which requires the Commission to incorporate such recommendations into the license unless the Commission can show that the recommendation is inconsistent with applicable law, which we cannot. Perhaps Northern and Wisconsin DNR can negotiate, and file for Commission approval, a mutually agreeable amendment to this article which would address the agency's concerns but relieve Northern of some of the required elements, or increase the periods between testing.

C. Article 403: Minimum Flow Release Monitoring

Article 403 requires Northern to file a plan to monitor compliance with, inter alia, the minimum flow requirement of Article 405. Northern argues that it is unnecessary to monitor compliance with the minimum flow requirement, since, pursuant to an agreement with the parties, the flows will be released through

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20/ Fly ash is a by-product of a coal-burning steam plant.

21/ Northern states that Wisconsin DNR never replied to its test results submittal.

22/ The Hayward Project is located on private lands within the St. Croix National Scenic Riverway, designated pursuant to the National Wild and Scenic Rivers Act. The National Park Service administers the Riverway. See the Trego Project license, supra, 67 FERC at pp. 61,958-59.

a dam opening that has been sized to ensure an 8 cfs flow. Northern proposes instead that the dam operator be required, whenever he is on site, to inspect the opening for debris that could interfere with the flow.

The monitoring of minimum flow requirements is one of the most basic elements of hydropower project regulation. The maintenance of stipulated flow levels in the bypassed reach of a stream can be critical to the well-being of the affected fishery and other resources. We therefore affirm the need to monitor these flows. The dam operator visits the Hayward Project on a near-daily basis from his station at the Trego Project, which is 30 miles and a 45-minute drive away. 23/ A daily visit by the dam operator is not adequate for monitoring purposes. We therefore affirm that Northern must install some sort of monitoring system. The system need not be costly, so long as it performs the necessary function.

D. Article 406: Canoe Portage Upgrade

Article 406 requires Northern to file, *inter alia*, a plan to enhance the canoe portage around the project dam, in accordance with the terms of a draft remediation plan Northern developed in consultation with Wisconsin DNR and the Park Service and filed with the Commission in September 1992. 24/ Northern seeks the deletion as redundant of the article's requirement that it file a final plan for Commission approval, and that before doing so it consult with Wisconsin DNR and the Park Service. Northern argues that the EA endorsed the remediation plan, and that it suffices for Northern to file as-built drawings and descriptions of completed measures.

To date, we have received neither a final version of the remediation plan nor full documentation of the nature of Northern's process of consultation with the agencies. Nor does the EA's endorsement of the proposed remediation plan substitute for Commission approval of the plan. However, in order to eliminate any unnecessary steps, we will amend Article 406 to provide that, when filing the final version of the remediation plan, Northern need only document that it has consulted with Wisconsin DNR, the Park Service, and the U.S. Fish and Wildlife Service (FWS) with respect to the contents of the final plan.

23/ EA, 72 FERC at pp. 64,644 and 64,666.

24/ Article 406 erroneously stated that the plan was filed September 8, 1992. The correct date is September 3, 1992.

E. Article 409: Wildlife Habitat Management Plan

Northern's land holdings at the project (aside from flowage rights) consist of 23 acres of undeveloped river frontage below the dam. FWS recommended that Northern be required to continue to maintain this acreage as wildlife habitat and to consult regularly with the resource agencies regarding management of and additions to this land. 25/ Article 409 incorporated FWS's recommendation, but added the requirement that Northern file a management plan for the 23 acres. Northern argues that a management plan is not needed for the fulfillment of FWS's recommendation. We agree, and will amend Article 409 accordingly. In order to simplify the identification and administration of project lands for what will now be a specified project purpose, we will require Northern to file a map containing a project boundary, in the format specified by our regulations. 26/

F. Article 411: Reservoir Draw-down

Article 411 requires Northern to file a management plan for the controlled draw-down of the project reservoir to reduce nuisance aquatic weed growth therein. 27/ Aside from its general concern that draw-downs will significantly affect project economics, 28/ kill fish, require modification of the powerhouse inlet, and create consternation among nearby residents and recreationists, Northern specifically opposes the requirement

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25/ EA, 72 FERC at p. 64,662. About 75 percent of the Hayward Lake shoreline is developed, but much of the shoreline remains under vegatative cover.

26/ See 18 C.F.R. § 4.61(f) (1995), incorporated by reference, 18 C.F.R. § 16.9(b)(2). These regulations do not require a project boundary for this project, which is a minor project (under 1,500 kW of installed capacity) for which specified sections of the FPA have been waived (see 72 FERC at p. 64,624, ordering paragraph (D)). Rather, we are requiring a boundary by this order.

27/ The draw-down plan is discussed in the EA, 72 FERC at pp. 64,654-56.

28/ The estimated annualized cost of Article 411, which assumes a drawdown every five years, is $1,000. EA, 72 FERC at p. 64,675.

for an initial 5.5-month test draw-down over the winter months. 29/ The test period is to determine whether a draw-down entails adverse impacts that would outweigh the benefit of controlling weed growth. Northern asks either that Article 411 be deleted or that the test draw-down be shortened and moved to late-fall/early winter.

The draw-down management plan requirement is based on the recommendations submitted by Wisconsin DNR and FWS pursuant to Section 10(j) of the FPA, and therefore must be included in the license unless the Commission can show that it is inconsistent with applicable law, which we cannot. However, we agree that there is no reason to remove the agencies' flexibility to agree with Northern on a shorter test period. We will revise Article 411 accordingly.

G. Article 414: Recreation Monitoring

License Article 414 requires Northern to monitor recreation use of the project area to determine, among other things, whether existing recreation facilities are meeting recreation needs; 30/ to file every six years a report which includes a finding as to whether there is a need for additional recreation facilities in the project area; and, if a need is found, to submit a plan to accommodate the identified needs.

Northern requests the deletion of provision (4) of the article, which requires it to provide additional recreational facilities if the need is established. Northern contends that this provision is overbroad, in that it would appear to hold Northern accountable for the future recreational planning and development for the City of Hayward, in which the project reservoir, the 247-acre Lake Hayward, is located.

The purpose of Article 414 is not to require Northern single-handedly to meet all future recreation needs around the project. However, the FPA specifically lists recreation as a

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29/ Article 411 refers to Wisconsin DNR's draw-down management plan, which proposes a three-foot draw-down from mid-October to April 1, in order to both dessicate and freeze the weeds. Northern has historically not drawn the reservoir down more than two feet. The average depth of the reservoir is five feet.

30/ Northern currently provides a canoe portage around the east side of the dam and unimproved shoreline fishing areas downstream of the spillway.

project purpose. 31/ Consequently, we hold our licensees responsible for providing an appropriate amount of recreation facilities, taking into account the size of the project and other project purposes. In any event, any action to require additional recreational development at the project will be in a separate proceeding, pursuant to notice, an opportunity for a hearing, and appeal rights.

H. Article 407 (Barrier Net) and the Cumulative Costs of License Conditions

License Article 407 requires Northern to install a barrier net to minimize entrainment of fish through the project turbines, and to evaluate the net's effectiveness. To this end, Northern is to file for Commission approval the final version of its barrier net agreement with Wisconsin DNR, as described in filings to the Commission. Pursuant to the agreement, Northern would fund the barrier net (plus a spare) and its installation, while Wisconsin DNR would maintain and annually deploy the net, evaluate its effectiveness, and provide a report and recommendations by December 31, 2000. 32/

On rehearing, Northern states that, even though it agreed to install a barrier net, the Commission should reassess the requirement, taking into account the cumulative impact on project economics of this and all other new conditions of the license. In the alternative, Northern asks that we dispense with the requirements for further agency consultation and the filing of a formal plan.

The barrier net requirement is based on the recommendations submitted by Wisconsin DNR and FWS pursuant to Section 10(j) of the FPA. As noted above, such recommendations must be included in the license unless the Commission can show that a recommendation is inconsistent with applicable law. While the EA reflects the staff's view that the barrier net is of questionable

31/ See FPA Sections 4(e) and 10(a)(1), infra n. 34. See also 18 C.F.R. § 2.7 (recreational development at licensed projects).

32/ The barrier net's function is to prevent the entrainment of walleye. (Wisconsin DNR agrees that the project is having little discernible effect on the rest of the fishery in the project reservoir.) The nature of the walleye fishery in the project reservoir and the proposal to require a net are discussed in the EA, 72 FERC at pp. 64,647-51. The net agreement is described id. at p. 64,651.

benefit in relation to its cost, 33/ we cannot find that the recommendation is inconsistent with applicable law, notably the Director's balancing of developmental and environmental values pursuant to the comprehensive development/equal consideration standards of Sections 4(e) and 10(a)(1) of the FPA. 34/

The cumulative cost of license conditions is certainly relevant to the Commission's decisionmaking pursuant to the directives of FPA Sections 4(e) and 10(a)(1). And indeed the Commission considered the costs of the various recommended conditions, including those, like the barrier net, that were submitted pursuant to FPA Section 10(j). The EA described the estimated cost (usually as supplied by Northern) of each proposed condition of any economic significance, and totalled the respective costs of the conditions proposed by Northern, the conditions recommended by the fish and wildlife agencies, and the

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33/ 72 FERC at pp. 64,648-51. The EA estimated the annualized cost of the barrier net requirement to be $2,200.

34/ Section 4(e) of the FPA, 16 U.S.C. § 797(e), requires the Commission,

> in addition to the power and development purposes for which licenses are issued, [to] give equal consideration to the purposes of energy conservation, the protection, mitigation of damage to, and enhancement of[] fish and wildlife (including related spawning grounds and habitat), the protection of recreational opportunities, and the preservation of other aspects of environmental quality.

Section 10(a)(1) of the FPA, 16 U.S.C. § 803(a)(1), requires that any project for which the Commission issues a license:

> shall be such as in the judgment of the Commission will be best adapted to a comprehensive plan for improving or developing a waterway or waterways for the use or benefit of interstate or foreign commerce, for the improvement and utilization of waterpower development, for the adequate protection, mitigation, and enhancement of fish and wildlife (including related spawning grounds and habitat), and for other beneficial public uses, including irrigation, flood control, water supply, and recreational and other purposes referred to in section 4(e) . . . .

conditions recommended by Commission staff (which were adopted by the Director). 35/

The EA also analyzed the net economic benefit of the project, and found that, even with no new license conditions, and based on the project costs submitted by Northern, the Hayward Project is more expensive to operate than the cost of the cheapest available alternative source, and that as a result the project's net benefit, annualized over a 30-year license term, is negative: -$42,200. On the other hand, the EA found that the annualized cost of retiring the project would be even more negative: -$60,500.

Northern's relicense proposal entailed an annual increase in project costs of $4,800, constituting an 11 percent effect on the project's net benefit. All the agencies' recommendations, combined, increased project costs by $25,300, a 60 percent effect. The conditions recommended by the Commission staff increased project costs by $5,800, a 14 percent effect. Thus, in acting on the license application, the Director was informed of the costs of proposed conditions, as well as the general economic status of the project. The license instrument reflects his judgment of the appropriate balance of project purposes, pursuant to FPA Sections 4(e) and 10(a)(1), 36/ and we affirm his decision.

Nor do we understand Northern to suggest that a project with negative economic benefits should not be subjected to environmental mitigation and enhancement measures. As we have recently pointed out, the FPA does not require that we accept severe environmental damage in order to protect even a very

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35/ See 72 FERC at pp. 64,663-70, esp. tables 3 and 6.

36/ For example, in recognition of the small capacity of the Hayward Project, the Director approved a monitoring plan for run-of-river operations that is significantly less expensive than the plan initially recommended by the agencies, and rejected as unwarranted and too expensive initial agency recommendations that the license's run-of-river requirement be monitored by use of new continuously recording headpond and tailwater gages, and that U.S. Geological Survey-type gaging stations be required. 72 FERC at pp. 64,669-70. The Director also found that the expense of employing a full-time dam operator at the Hayward Project was not justified, and rejected as unnecessary an agency recommendation that a flow rating curve be developed for the project. Id. at pp. 64,665-669, as summarized in table 8 on p. 64,674.

marginal project. 37/ Having conditioned the new license so as to meet the FPA standards, we leave to Northern the judgment of whether or not to continue to operate the project under these terms. 38/

With respect to Northern's alternative request that it be relieved of filing a "formal plan," we fail to see that it can entail much cost or burden to provide the Commission with a final, integrated version of its agreement for review and approval. However, we will amend Article 407 to provide that, when filing the barrier net agreement, Northern need only document that it has consulted with Wisconsin DNR, the Park Service, and the U.S. Fish and Wildlife Service with respect to the contents of the final agreement.

The Commission orders:

(A) The request for rehearing filed by the Wisconsin Department of Natural Resources on September 27, 1995, is granted as set forth in paragraph (B), and is denied in all other respects.

(B) The first sentence of ordering paragraph (A) of the license issued on September 1, 1995, for the Hayward Project No. 2417, 72 FERC ¶ 62,204 at p. 64,624, is amended to read as follows:

> (A) This license is issued to the Northern States Power Company, effective the first day of the month in which this license is issued, and expiring on November 30, 2025.

(C) The request for rehearing filed by Northern States Power Company on October 2, 1995, is granted to the extent set forth below, and is denied in all other respects.

(D) Article 203 of the Project No. 2417 license is deleted.

(E) Article 405 is amended by adding the following sentence at the end of the first paragraph:

37/ See Policy Statement on Project Decommissioning, supra n. 4, ¶ 31,011 at p. 31,228. See also Wisconsin Public Service Corp. v. FERC, 32 F.3d 1165, 1168 (7th Cir. 1994) ("[T]here can be no guarantee of profitability of water power projects under the Federal Power Act; profitability is at risk from a number of variable factors, and values other than profitability require appropriate consideration.")

38/ See Mead Corp., 72 FERC ¶ 61,027 at p. 61,070 (1995).

This requirement is effective upon the completion of the measures required by Article 406.

(F) Article 406 is amended to read as follows:

Article 406. Within 60 days from the date of issuance of the order on rehearing of this license, the licensee shall file, for Commission approval, the final "Remediation Plan to Stabilize and Restore the Namekagon River Channel and Shoreline Downstream from the Hayward Dam Spillway" (a draft version of which was filed with the Commission on September 3, 1992), which proposes measures to enhance aquatic habitat in the project bypassed reach and improve the canoe portage around the Hayward Project Dam. The filing shall include detailed design drawings, a schedule for installing the enhancement measures, and documentation that the licensee has consulted with the Wisconsin Department of Natural Resources, the National Park Service, and the U.S. Fish and Wildlife Service with respect to the contents of the final remediation plan, including giving these agencies at least 30 days to respond.

The Commission reserves the right to require changes to the plan. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission. The measures implemented shall be shown on the as-built drawings filed pursuant to Article 301 of this license.

(G) Article 407 is amended to read as follows:

Article 407. Within 60 days from the date of issuance of the order on rehearing of this license, the licensee shall file, for Commission approval, a final, integrated cooperative agreement between it and the Wisconsin Department of Natural Resources (WDNR), incorporating the terms described in the licensee's filings of September 27 and October 11, 1994, and in WDNR's filing of October 14, 1994, for the minimization of fish entrainment through the project by the deployment of a barrier net. The filing shall include, at a minimum: (1) detailed design drawings of the proposed barrier net and support structure; a description of the responsibilities of the licensee and WDNR regarding funding, annual installation and maintenance of the barrier net, and evaluation of the barrier net's effectiveness; (3) a schedule for implementing the plan and protection measures; and (4) documentation that the licensee has consulted with WDNR, the National Park Service, and the U.S. Fish and Wildlife Service with respect to the contents of the final agreement, including giving these agencies at least 30 days to respond. The licensee shall, after consultation with WDNR, file for Commission approval a description of how the effectiveness of the barrier net will be evaluated, including how it will be evaluated independent of any other fish management strategy implemented by WDNR (e.g., stocking larger-size walleye, reservoir draw-downs, etc.).

The Commission reserves the right to require changes to the plan. Upon Commission approval, the licensee shall implement the plan, including any changes required by the Commission. The barrier net and associated support structure shall be shown on the as-built drawings filed pursuant to Article 301 of this license.

The licensee shall obtain from WDNR and file with the Commission the results of the effectiveness study, including a description of the benefits to be derived from the use of the barrier net. If the study results indicate that the barrier net is effective in reducing the entrainment of walleye, the Commission may direct the licensee to purchase additional replacement nets as necessary, and to continue to fund WDNR for the annual installation and maintenance of the barrier net. The Commission reserves the right to require the licensee to annually install and maintain the net, in the event current arrangements end.

(H) Article 409 is amended to read as follows:

Article 409. Within 90 days from the date of issuance of the order on rehearing of the new license issued for this project, the licensee shall file an Exhibit G (project map), as described in 18 C.F.R. § 4.61(f) (1995). The map shall include within the project boundary the 23 acres of land owned by the licensee below the dam. The licensee shall: (1) maintain these 23 acres as wildlife habitat, with public access where permitted (i.e., to areas that do not present safety hazards and are not environmentally sensitive); (2) routinely consult with the Wisconsin Department of Natural Resources' (WDNR) wildlife managers regarding decisions affecting wildlife management on the project lands; (3) cooperate with WDNR's wildlife managers in conducting wildlife surveys of project lands; and, (4) in addition to the requirements of Article 415, consult with WDNR, the U.S. Fish and Wildlife Service, and the National Park Service on proposed additions to or withdrawals from the project boundary of lands having the potential for wildlife management.

(I) The last two sentences of paragraph 1 of Article 411 are amended to read:

Further, in lieu of an interim experimental drawdown as proposed in the WDNR's plan, the licensee's plan should contain provisions for an initial test drawdown for a period of 5.5 months, or for whatever lesser period the licensee, the WDNR, the U.S. Fish and Wildlife Service, and the National Park Service agree on. The results of the initial test drawdown would be used to make modifications to any subsequent managed drawdowns (i.e., the plan shall incorporate provisions for adaptive management).

(J) A new Article 416 is added to the Project No. 2417 license:

Article 416. Any application to transfer this license shall include proof of service of a copy of that application on the Wisconsin Department of Natural Resources and the U.S. Department of the Interior.

By the Commission.

(S E A L)

Linwood A. Watson, Jr.,
Acting Secretary.

APPENDIX 3.5.2.1-1 Trego Project Existing FERC License

UNITED STATES OF AMERICA 67 FERC ¶ 61, 282
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Elizabeth Anne Moler, Chair;
Vicky A. Bailey, James J. Hoecker,
William L. Massey, and Donald F. Santa, Jr.

Northern States Power Co.) Project No. 2711-002

ORDER ISSUING LICENSE

(Issued June 2, 1994)

On March 25, 1991, Northern States Power (Northern) filed an application under Part I of the Federal Power Act (FPA) 1/ for a subsequent license 2/ to continue to operate and maintain the 1.2 megawatt (MW) Trego Project No. 2711. The project is located on the Namekagon River in the town of Trego in Washburn County, Wisconsin. For the reasons discussed below, we will issue the license.

Notice of the application was published. The Wisconsin Department of Natural Resources filed a motion to intervene but did not take a position on the license. American Rivers, Inc. filed a motion to intervene. The U.S. Department of the Interior (Interior) did not seek intervenor status, but filed comments. American Rivers does not oppose continued operation of the Trego Project (with appropriate conditions), but asserts that the Commission lacks authority to issue the project a subsequent license. 3/ Interior maintains that it has authority to require conditions pursuant to Section 4(e) of the FPA because the project is located within the Wild and Scenic Rivers System which Interior administers. These arguments are addressed below, and all other comments of intervenors, agencies, and individuals

1/ 16 U.S.C. §§ 791(a)-823(b).

2/ A subsequent license is a license issued after the expiration of a minor license for which Sections 14 and 15 of the FPA (dealing with relicensing) were waived. 18 C.F.R. § 16.2(c) (1992). Although, in a letter filed March 25, 1991, Northern stated its assumption that the initial license order for the Trego project did not waive Sections 14 and 15 of the FPA, the license order did do so. See 57 FPC 1527 (1977). The initial license order gave Northern an opportunity to file a supplemental application if it did not wish the provisions to be waived (see 57 FPC at 1531), but we have no evidence that it ever did so.

3/ Interior initially also made this assertion, but later changed its position. See discussion, infra.

have been considered in determining whether, or under what conditions, to issue this license. 4/

An Environmental Assessment (EA) was issued on February 27, 1992, and is attached to and made a part of the license. A Safety and Design Assessment is available in the Commission's public file on this project.

A. PROJECT DESCRIPTION

The project facilities, which are described more fully in ordering paragraph (B)(2) below, consist of a dam comprised of two embankment sections, one 380 feet long and 30 feet high, the other 110 feet long and 25 feet high; a spillway structure 92 feet long by 27 feet high, surmounted by three Taintor gates, each 25.5 feet long by 10 feet high, and a 6-foot-wide trash gate and sluiceway; an impoundment about 6 miles long, with a surface area of 470 acres and an estimated storage capacity of 4,700 acre-feet at the normal water surface elevation; a powerhouse located adjacent to the left end of the spillway structure; two turbine-generator units rated at 700 kilowatts (kW) and 500 kW, for a total installed capacity of 1,200 kW; a small substation, feeding directly into Northern's distribution system; and appurtenant equipment and facilities. Northern proposes no new construction.

B. JURISDICTION

The Trego Project was constructed in 1926. The Namekagon River, on which it is located, is a tributary of the St. Croix River. In 1968, the Wild and Scenic Rivers Act (Rivers Act) designated parts of the St. Croix River and all of the 98-mile-long Namekagon River as the St. Croix National Scenic Riverway, to be administered by Interior. 5/ In 1977, the Commission

4/ Comments were filed by Interior, the Wisconsin Public Service Commission, the Wisconsin Department of Natural Resources, the Wisconsin State Historical Society, the Trego Lake District, U.S. Senator R.W. Kasten, S. Rowan, Barbara and Richard Ford, John W. Beissel, Paula and John Ford, Charles and Angela Kandlik, E.R. Emerson, Bruce Kearns, and A.A. Metcalf.

5/ See Section 3(a)(6) of the Rivers Act, 16 U.S.C. § 1274(a)(6). The Secretary of Agriculture administers wild and scenic rivers that are adjacent to or surrounded by national forest lands. The Secretary of the Interior administers components of the wild and scenic rivers system through the National Park Service as part of the national park system, and through the Fish and Wildlife Service as part of the national wildlife refuge system.

issued an original license for the Trego Project, based on its determination that the Namekagon River is a navigable waterway of the United States. 6/ Section 7(a) of the Rivers Act, 16 U.S.C. § 1278, bars the Commission from licensing "the construction of" any dam, water conduit, or other project works "on or directly affecting any river which is designated ... as a component of the national wild and scenic rivers system ...." Since the Trego Project predates the Rivers Act, and so long as no new construction is proposed, Section 7(a) of the Rivers Act does not bar the issuance of a license for its continued operation, nor has anyone asserted otherwise.

However, the Rivers Act also provides that any component of the national wild and scenic rivers system administered by Interior through the Park Service shall become a unit of the national park system. 7/ Citing the General Authorities Act

6/ Northern States Power Company, 57 F.P.C. 1527 (1977). Under Section 23(b)(1) of the FPA, 16 U.S.C. § 817(1), projects located on navigable waterways of the United States are required to be licensed. Interior and the Wisconsin Department of Natural Resources filed comments on the original license application. No one opposed issuance of the original license. The license order mentions the 1968 Rivers Act designation, not in the "jurisdiction" discussion but in the "recreation" discussion, where it states:

> Since the Trego Project is located within the St. Croix National Scenic Riverway system which is administered by the National Park Service (NPS) (Section 3(a)(6), P.L. 90-542), and the Namekagon River has been selected for recreational development by the NPS, we are not approving the voluntarily filed Exhibit R Text and recreation map.
>
> Article 23 of the project license provides for a cooperative field study with NPS and DNR and a determination of what, if any, additional recreational development should be provided in the Trego Project area.

7/ 16 U.S.C. § 1281(c) of the Wild and Scenic Rivers Act provides:

> Any component of the national wild and scenic rivers system that is administered by the Secretary of the Interior through the National Park Service shall become a part of the national park system .... The lands involved shall be

(continued...)

of 1970, American Rivers asserts 8/ that, since the Trego Project is located in a unit of the national park system, it is subject to the rules and regulations applicable to all units of the park system. From this they reason that, since the FPA prohibits the issuance of licenses for projects located in national parks and monuments, the Commission lacks jurisdiction to issue licenses for projects located in any unit of the park system. 9/

Section 4(e) of the FPA 10/ authorizes the Commission to issue licenses for projects which, inter alia, are located on reservations of the United States. 11/ Section 3(2) of the FPA 12/ defines the term "reservations" to exclude "national monuments or national parks." 13/ The Authorities Act of 1970

7/(...continued)

> subject to the provisions of this chapter and Acts under which the national park system ... is administered .... The Secretary of the Interior, in his administration of any component of the national wild and scenic rivers system, may utilize such general statutory authorities relating to areas of the national park system otherwise available to him for recreation and preservation purposes and for the conservation and management of natural resources as he deems appropriate to carry out the purposes of this chapter.

8/ July 24, 1991 motion to intervene.

9/ Interior originally made this argument as well. See the November 20, 1991 letter (filed November 25) from the Director, Office of Environmental Affairs, Office of the Secretary of the Interior, to the Commission Secretary, at 1. Interior revised its position in a letter dated December 8, 1993 (discussed below).

10/ 16 U.S.C. 797(e).

11/ As we discuss below, the Trego Project is not located on federal lands of any kind, and therefore is not located on a reservation. However, a unit of the National Park System can encompass non-federal lands.

12/ 16 U.S.C. 796(2).

13/ The Commission has interpreted the Section 3(2) prohibition on issuing licenses for projects in national monuments or parks as not being a bar to the relicensing of projects that (continued...)

defines "the national park system" to include "any area of land and water now or hereafter administered by the Secretary of the Interior through the Park Service for park, monument, historic, parkway, recreational, or other purposes." 14/ In addition to national parks and national monuments, the national park system now includes, inter alia, national memorials, national cemeteries, national recreation areas, national seashores, national seashore recreational areas, national parkways, national conservation areas, national conservation recreational areas, national historic sites, national lakeshores, national rivers, national battlefields, and national farm parks. But while national parks and monuments are units of the national park system, all other units of the park system are not national parks or monuments; the Commission has previously held that the FPA's specific prohibition on licensing projects in national parks and monuments does not extend to any other park system unit. 15/

While the national park system was growing, Congress enacted a variety of statutes authorizing the Secretary of the Interior to deal with the details of its operation. Since these statutes did not clearly apply to all units of the park system, there was concern that the scope of the statutes would be limited to those units of the park system specifically named therein. 16/ To address this concern, the Authorities Act of 1970 provides: 17/

> Each area within the national park system shall be administered in accordance with the provisions of any

13/(...continued) were originally licensed before the lands they occupied were designated as national monuments or parks. See James River II, Inc., 53 FERC ¶ 61,096 (1990), reh'g denied, 55 FERC

 61,034 (1991), appealed, Olympic Park Associates, et al. v. FERC, 9th Cir. No. 91-70351 (filed May 31, 1991), in abeyance in light of Elwha River Ecosystem and Fisheries Restoration Act, Pub. L. No. 102-495 (Oct. 24, 1992). These orders contain detailed discussion of the legislative history of Section 3(2) of the FPA and of pertinent case law.

14/ 16 U.S.C. 1c(a).

15/ Gentry Resources Corporation, 32 FERC 61,137 (1985). As discussed below, enactment of Section 2404 of the Energy Policy Act of 1992 has limited this decision.

16/ See H.R. Rep. No. 1265, 91st Cong., 2d Sess. (1970), reprinted in 1970 U.S.C.C.A.N. 3785.

17/ 16 U.S.C. 1c(b).

> statute made specifically applicable to that area. In addition, the provisions of this Act, and the various authorities relating to the administration and protection of areas under the administration of the Secretary of the Interior through the National Park Service, . . . shall, to the extent such provisions are not in conflict with any specific provision, be applicable to all areas within the national park system[,] and any reference in such Act to national parks, monuments, recreation areas, historic monuments, or parkways shall hereinafter not be construed as limiting such Acts to those areas.

However, that Congress provided for the uniform administration of all units of the national park system does not, as American Rivers argues, mean that all units of the park system are national parks or monuments for purposes of Section 3(2) of the FPA. 18/

In the Energy Policy Act of 1992, 19/ Congress broadened the prohibition on original licenses to encompass not only all projects located in national parks and monuments but also certain other projects located in any unit of the national park system. Section 2402 of that Act provides:

> After the date of enactment of this Act, the Federal Energy Regulatory Commission may not issue an original license under Part I of the Federal Power Act (nor an exemption from such Part) for any new hydroelectric power project located within the boundaries of any unit of the National Park System that would have a direct adverse effect on Federal lands within any such unit. Nothing in this section shall be construed as repealing any existing provision of law (or affecting any treaty) explicitly authorizing a hydroelectric power project.

18/ Since 1971, Congress, when providing for the addition of new components to the park system other than national parks or monuments, has specifically prohibited the Commission from licensing new projects in at least five instances: Buffalo National River, 16 U.S.C. § 460m-11; New River Gorge National River, 16 U.S.C. § 460m-21; Big South Fork National River and Recreation Area, 16 U.S.C. § 460ee; Hells Canyon National Recreation Area, 16 U.S.C. § 460gg-2; Chattahoochee River National Recreation Area, 16 U.S.C. §460ii-3. If the reference to national parks and monuments in the FPA applied to all units of the park system, there would be no reason for Congress to specifically prohibit the licensing of new projects in these areas.

19/ Pub. L. No. 102-486, 106 Stat. 2776-3133 (Oct. 24, 1992).

By letter dated December 8, 1993, Interior amended its comments on the Trego Project application to reflect its interpretation of Section 2402. 20/ Interior stated:

> Because the Trego dam is on the Namekagon River which is included in the Saint Croix National Scenic Riverway, it is located in a unit of the National Park System. As a unit of the National Park System, the

> Saint Croix National Scenic Riverway is subject to the Energy Policy Act of 1992 and, more specifically, to Section 2402. Under Section 2402, the National Park Service (NPS) has determined that the issuance of a new original license for the Trego Hydro Project would not have a direct adverse effect on Federal lands within the Saint Croix National Scenic Riverway, subject to the terms and conditions included below [i.e.,under the Section 4(e) Terms and Conditions section of the letter]. We take this position in light of the fact that the project was in operation before designation by Congress of the Saint Croix National Scenic Riverway, and has operated without creating adverse impacts to prompt our objection to a new original license.

Interior's December 8, 1993 letter indicates that Interior has receded from its former position that the Commission lacks jurisdiction to issue a license of any kind, original or new, for any kind of project, new or existing, in any unit of the National Park System. 21/ However, Interior's letter nevertheless misapplies Section 2402. The letter discusses issuance of a "new original license." There is no such thing. Section 2404 applies only to any "original license" issued for any "new hydroelectric power project" within any unit of the National Park System. By contrast, the Trego Project is the subject, not of an original license, but of a subsequent license for an existing project. 22/ Indeed, Northern's license application for the

20/ December 8, 1993 letter to the Commission Secretary from the Director of the Office of Environmental Policy and Compliance, Office of the Secretary of the Interior, at 1.

21/ See n. 9, supra.

22/ See Sections 7(a) and 15(a) of the FPA, 16 U.S.C. §§ 800(a), 808(a). See also 18 C.F.R. § 4.30(b)(19) (1993):

> "New license" means any license, except an annual license issued under section 15 of the Federal Power Act, for a water power project that is issued under the Federal Power Act after the initial license for that project.

Trego Project (and the license issued today) does not contemplate any new construction at the project. As such, the project does not fall within the terms of Section 2402, and does not require a finding 23/ regarding its effect on federal lands within the Park System unit. 24/

23/ The Commission has not yet addressed the issue of which agency is to make such a finding.

24/ On March 10, 1994, Interior filed a letter in which it acknowledged that there are no federally owned lands within the project boundary, but argued that the project nevertheless is subject to terms and conditions submitted by Interior under Section 4(e) of the FPA because it is located on a component of the National Wild and Scenic Rivers System administered by the Secretary of the Interior. Section 6(a)(1) of the Rivers Act gives the Secretary authority to acquire lands along segments of the National Wild and Scenic Rivers System. However, the Secretary has not exercised that authority in this instance. Thus, Interior appears to be maintaining that administrative authority, by itself, gives it conditioning authority under Section 4(e). We have been unable to find any support, in either the FPA or the Rivers Act, for Interior's position.

As defined by Section 3(2) of the FPA, 16 U.S.C. § 796(2), a reservation, for the purposes of the FPA, embraces only "lands and interests in lands owned by the United States." See Federal Power Commission v. Tuscarora Indian Nation, 362 U.S. 99, 111, 114 (1959) ("Congress intended the term `reservations,' whenever used in the Act, to embrace only `lands and interests in lands owned by the United States.'"). We also note that the Rivers Act does not define the term "reservation," or confer "reservation" status on any of the land through which components of the Wild and Scenic Rivers System flow, let alone purport to define the term for purposes of the FPA.

Although Interior does not have authority in this proceeding to require terms and conditions pursuant to Section 4(e), the conditions submitted by Interior are, in substance, adopted in the license. License Article 401 requires that the project be operated in a run-of-river mode; Article 405 requires that the Park Service and the Wisconsin Department of Natural Resources be consulted on any drawdown management plan; Article 408 requires that the licensee consult with the resource agencies about recreational use of the project in conjunction with the preparation of FERC Form 80, which must be filed with the Commission every six years (Interior had requested recreation and land use review every five

(continued...)

In light of all of the above, we conclude that the Commission has authority to issue a subsequent license for the continued operation and maintenance of the Trego Project.

C. WATER QUALITY CERTIFICATION

On March 19, 1990, Northern filed a request for water quality certification with the Wisconsin Department of Natural Resources (Natural Resources), which on September 12, 1990, issued a notice of preliminary determination of waiver of certification. On December 3, 1990, Natural Resources notified Northern that the preliminary determination of waiver was final.

D. FISHWAYS

Section 18 of the FPA provides that the Commission shall require the construction, maintenance, and operation by a licensee at its own expense of such fishways as may be prescribed by the Secretary of the Interior or of Commerce. Pursuant to Section 18, Interior requests that any license issued for this project include a reservation of authority for it to prescribe the construction, operation, and maintenance of fishways. 25/ Consistent with Commission practice, 26/ Article 404 of the license reserves authority to the Commission to require the licensee to construct, operate, and maintain such fishways as may be prescribed by Interior pursuant to Section 18 of the FPA.

E. RECOMMENDATIONS OF FEDERAL AND STATE FISH AND WILDLIFE AGENCIES

Section 10(j) of the FPA requires the Commission to include license conditions, based on recommendations of federal and state fish and wildlife agencies submitted pursuant to the Fish and Wildlife Coordination Act, for the protection of, mitigation of adverse impacts to, and enhancement of fish and wildlife, unless such conditions would conflict with the FPA or other law. 27/

24/(...continued)
years); and Article 409 requires that resource agencies be consulted before any land is conveyed.

25/ See letter dated November 20, 1991, from Jonathan P. Deason, Director, Office of Environmental Affairs, Office of the Secretary, U.S. Department of the Interior.

26/ See Wisconsin Public Service Corp., 62 FERC ¶ 61,095 (1993).

27/ Measures recommended by Natural Resources that are not appropriate fish and wildlife recommendations under
(continued...)

The EA for the Trego Project addresses the concerns of the federal and state fish and wildlife agencies in detail, and the license includes conditions consistent with the agencies' recommendations that Northern: (1) operate the project in a run-of-river mode, using new controls installed in 1990 that narrow the normal operating range of the power pool to within 0.3 foot of total fluctuation, providing stabilized and near-natural aquatic conditions for fish and wildlife at the impoundment and downstream; (2) fund Natural Resources' programs for the restoration of the sturgeon and gilt darter upstream of the project; (3) maintain the existing trashracks with 1.5-inch bar spacing to minimize fish entrainment and impingement; (4) formulate a drawdown management plan to evaluate the need for and, if needed, to implement a drawdown to control sediment accumulation and aquatic vegetation, to provide better recreational access and use of the upper impoundment; and, (5) provide fish passage facilities if future needs require.

1. Project Operation

Northern has committed to continue run-of-river operation of the project, maintaining the minimum flow at 230 cfs or inflow, whichever is less, and to maintain the impoundment level within 0.3 feet of the target elevation of 1034.9 feet msl (mean sea level) during routine operation, or within 0.6 feet during emergency operations. All parties agree that the Trego Project should be operated in a run-of-river mode, but there has been some disagreement about the maintenance of a stabilized impoundment level.

Natural Resources and Interior recommend that the elevation of the impoundment fluctuate from the target elevation no more than 0.1 feet in the winter and 0.3 feet in the summer. Natural Resources also recommends that the elevation of the impoundment be allowed to vary up to 0.6 feet under extreme conditions, such as flood flows, equipment malfunctions, or operational emergencies, provided that these terms are clearly defined and agreed to beforehand by Natural Resources. Interior suggested that elevation limits not be modified beyond recommended limits without the prior concurrence of Natural Resources, the U.S. Fish and Wildlife Service (FWS), and the Park Service.

Northern proposes a 0.3 foot normal operation range year round. Northern states that it attempts to maintain impoundment

27/(...continued)
Section 10(j) have been considered in the EA pursuant to Section 10(a)(1) of the FPA. These include recommendations concerning development of a drawdown management plan, consistency with comprehensive plans, a macrophyte survey, and recreational user surveys.

fluctuations at the levels suggested by Natural Resources but believes that imposition of a more restrictive operating range in winter is both technically difficult and unjustified from an environmental perspective. Northern agrees with the recommended

0.6-foot variation during extreme conditions, but does not agree with the recommendation that all future deviations from normal levels be clearly defined and approved by Natural Resources, FWS, and the Park Service, because events beyond its control could cause variations in the impoundment level, and it should not be necessary to define every possible occurrence that could cause a variance from the normal operating range.

We conclude that run-of-river operation, with a ñ0.3 foot fluctuation limit, would not alter streamflow upstream or downstream of the project; therefore, fish and wildlife habitats, including wetland areas, would not be affected by project operation. We believe that the more restrictive ñ0.1 foot fluctuation during the winter would not be technically feasible and biologically would have no purpose. Also, we find that many factors can cause changes in the elevation of the Trego impoundment, and we believe that Northern should not be penalized if, while making a good-faith effort to remain within the normal operating range, it fails to achieve any overly restrictive target elevation objectives. Therefore, we will not require Northern to maintain a more restrictive impoundment fluctuation during the winter, or to enter into an agreement with the resource agencies to define all of the extreme operating conditions that could occur. The normal elevation limits for the impoundment should be lifted under extreme conditions, such as floods, ice jams, equipment malfunction, or operational emergencies. Article 401 requires that the project be operated in a run-of-river mode, sets a target elevation for the Trego impoundment at 1,034.9 feet, and allows for a fluctuation of 0.3 feet around the target elevation. Article 401 also provides for a temporary modification of run-of-river operation in emergencies and for short periods in non-emergency situations upon mutual agreement between Northern, Natural Resources, FWS, and the Park Service.

Article 402 requires Northern to operate and maintain streamflow monitoring devices and staff gages to monitor compliance with the operational requirements of the license, and adopts the agency suggestion that staff gages be made visible to permit public scrutiny of operations. Northern is also required to make project flow records available to the U.S. Geological Survey, the Park Service, FWS, and Natural Resources within 30 days of a request for these records.

2. Impoundment Drawdown

Owners of property on the shoreline of the Trego impoundment, acting as the Trego Lake District (District), commented that sediment and weeds limit access to the impoundment for recreational purposes. Natural Resources estimates that this sediment is deposited by the Namekegon River at a rate of 2,000 cubic yards a year, causing shallow water at the upper end of the impoundment, thereby encouraging weed growth and the development of wetlands. The District recommends a one-month drawdown of four to five feet every four to five years to remove sediment and associated weeds. Natural Resources sees no immediate need for a drawdown, but recommends that Northern prepare a drawdown management plan in consultation with the resource agencies and the District within one year of the effective date of a new license. Natural Resources recommends that plans for a drawdown include sediment management techniques that would avoid water quality problems caused by the resuspension of sediment, shown by core sampling studies to contain heavy metals in concentrations above those allowed by Environmental Protection Agency guidelines. Interior agrees that a drawdown management plan should be prepared. Both agencies are concerned about the impact of a drawdown on resident fish, amphibians, and aquatic vegetation.

Northern agrees to cooperate with the District and the resource agencies in developing drawdown management plans and in conducting project maintenance drawdowns. Because the dam is in very good condition, however, Northern does not expect a maintenance drawdown for many years. Northern proposes that a plan be developed when needed, and opposes a license requirement to develop a plan within one year of the effective date of a new license. Northern is willing to work with Natural Resources on sediment management techniques, but states that it should not be held accountable for contaminants that originate elsewhere in the watershed.

We agree with Natural Resources' recommendation that sediment sampling be done in conjunction with any planned drawdown. Should new evidence show the need for sediment management techniques, standard license Article 11 will allow the agencies to recommend changes in project structures and operations for the conservation and development of fish and wildlife resources.

We considered the District's drawdown proposal, the lack of technical evidence supporting the proposal, the concerns of the resource agencies about the environmental impacts of a drawdown, and the cost of a drawdown in lost power generation and economic benefits. 28/ The previous drawdown that removed weeds and

28/ Drawdown of the project during winter will necessitate shut-down of project generation. We estimate that a one-month project shut-down would reduce project generation by about (continued...)

sediment was an eleven-foot drawdown maintained for a period of several months during the winter. We question whether the District's proposed thirty-day drawdown of four to five feet will produce the desired result of allowing greater access to the impoundment. 29/ Therefore, we conclude that Northern should conduct a further study to substantiate the need for a drawdown and, if a need is substantiated, develop a plan in consultation with all interested parties. We are further requiring that the issue be reevaluated on a recurring basis every four years because of the high value of the project impoundment for recreational activity as part of a Wild and Scenic River. Article 405 contains these requirements.

3. Restoration of Lake Sturgeon and Gilt Darter

The lake sturgeon and the gilt darter are state-protected species that were historically found throughout the Namekagon River until the presence of the Trego Project limited the range of both to below the project. Northern has agreed to provide Natural Resources with funding, totalling $5,000, to support a program to restore the lake sturgeon upstream of the Trego Dam. In addition, Northern will provide Natural Resources with $500 for a habitat assessment study of the gilt darter and, if the study indicates that restoration of the gilt darter is feasible, an additional $2,000 for restoration efforts. This program is designed to expand the geographic range of the species, increase population size, and eventually remove the species from the protected list. License Article 403 adopts these provisions.

4. Trashracks and Fish Passage Facilities

Natural Resources asserts that the project causes fish entrainment, but states that the extent to which entrainment causes fish mortality will not be known until the results from

28/(...continued)
580,000 kilowatthours (kWh). We further estimate that the 50-year levelized cost of alternative fuel for Northern to replace the lost generation would be about 42.0 mills/per kWh. Based on this information, we estimate that a one-month shut-down would cost Northern about $24,000. This amounts to about 7.5 percent of the project's gross benefits in any one year.

29/ Northern executed an eleven-foot drawdown in November and December of 1978 in order to repair the dam. This drawdown scoured out most of the sediment and vegetation in the upper impoundment and restored the bottom to near pre-impoundment condition. Natural Resources estimates that this process resulted in the relocation of about 20,000 cubic yards of sediment.

ongoing and planned studies from other locations within the state are obtained. Therefore, Natural Resources recommends that the license provide that resource agencies be able to recommend modification of project structures and operation should new information indicate that changes are necessary to mitigate the Trego Project's effects on fish. Northern asserts that the project's potential for causing fish mortality is low and cites the robust fish population in both the Trego impoundment and the Namekagon River downstream of the project. Northern proposes that trashracks be maintained at a 1.5-inch bar-spacing to keep moderate and large fish out of the turbines, and allow larval and juvenile fish, for which there is no practical means of exclusion, to pass through the turbines and add to the downstream fishery. We conclude that Northern's proposal to maintain the existing trashracks minimizes the project's effect on most resident fish and find that there is no evidence to support alteration of the trashrack design. Standard license Article 11 allows the resource agencies to recommend changes in project structure and operation if, in the future, there is evidence that such changes are necessary for the preservation and conservation of fishery resources.

Natural Resources states that the current management objectives for the Namekagon River do not include facilities for upstream and downstream passage of fish at the Trego Project. As discussed above, Article 404 contains Interior's requested reservation of authority to prescribe fishways under Section 18 of the FPA.

F. OTHER AGENCY RECOMMENDATIONS

Pursuant to Section 10(a)(2)(B) of the FPA, the Commission is required to consider the recommendations of federal and state agencies exercising administration over navigation, flood control, irrigation, recreation, cultural, and other relevant resources of the state in which the project is located and the recommendations (including fish and wildlife recommendations) of Indian tribes affected by the project. Relevant agency comments are discussed below.

1. Recreation

A 1990 recreational use survey of the project area conducted by Northern was reviewed by the Northwest Regional Planning Commission (Planning Commission), 30/ which then conducted an inspection of existing recreational facilities and a recreation

30/ The Planning Commission refers to itself as an economic development district; its executive committee is comprised of representatives of counties and Indian tribal units in the northwest part of Wisconsin.

needs assessment. Recreational facilities were found to be adequate to meet current recreational needs for the next five to ten years, except for minor improvements, detailed below, and maintenance. Natural Resources requested that data from this survey be made available for use as a baseline for decisions on future recreational needs and requested that surveys be done more frequently than in conjunction with Commission inspections at five-year intervals. FWS recommends that Northern either improve existing facilities or develop new facilities on the impoundment to optimize recreational use. Northern agrees to provide Natural Resources with the requested data, but states that it can see no reason for more frequent surveys.

The Planning Commission recommended that Northern: (1) provide signs indicating the parking area for walk-in fishing at North River Road; (2) dredge the upstream canoe take-out area; and (3) provide trash receptacles and restrooms for portage trail users. Northern agrees to make these improvements with the following exceptions: (1) Northern's hydrologist has determined that cutting aquatic vegetation in the canoe take-out area will improve access to that area, thereby avoiding the adverse environmental impacts of dredging; and (2) Northern states that the installation of permanent toilet facilities at the dam portage site would require that a septic field be placed very near to the earthen dike and the river, consequently Northern has agreed to consider placing portable toilet facilities at this site.

In addition to the improvements to recreational facilities agreed upon by all parties, we will require that Northern provide portable toilet facilities at the dam portage site during peak recreational use periods, and monitor recreational use in conjunction with the preparation of FERC Form 80, Licensed Hydropower Development Recreation Reports, which must be filed with the Commission every four years. Articles 407 and 408 adopt these requirements. We conclude that the planned recreational improvements are consistent with the stated management objectives of the Park Service for this area. 31/

2. Cultural Resources

Five prehistoric sites within or immediately adjacent to the reservoir have been identified. In addition, two historic structures and another prehistoric site were located but determined to be well outside of the project. A Programmatic Agreement among the Commission, the Advisory Council on Historic Preservation, and the Wisconsin State Historic Preservation

31/ See St. Croix Scenic Riverway Final Master Plan, National Park Service, October 1976.

Office was signed on June 16, 1992. Article 406 adopts this agreement.

G. COMPREHENSIVE PLANS

Section 10(a)(2)(A) of the FPA requires the Commission to consider the extent to which a project is consistent with federal or state comprehensive plans for improving, developing, or conserving a waterway or waterways affected by the project. 32/ Thirty-four federal and state agencies filed comprehensive plans that address various resources in Wisconsin. Of these, the staff identified and reviewed nine plans that are relevant to this project, and did not find any conflicts between the project and these plans. 33/

H. ECONOMIC EVALUATION

In determining whether a project will be best adapted to a comprehensive plan for developing a waterway for beneficial public purposes, pursuant to Section 10(a)(1) of the FPA, the Commission considers, among other things, whether the project will provide economic benefits. In considering this factor for this project, we considered the project with both the applicant's and the Commission's mitigative measures.

The cost of the Trego Project is 17.4 mills per kWh; the project's carrying costs amount to about 3.3 mills per kWh; and the operation and maintenance, administrative, and general costs

32/ Comprehensive plans for this purpose are defined at 18 C.F.R. 2.19 (1992).

33/ (1) St. Croix National Scenic Riverway Final Master Plan, 1976, National Park Service; (2) Land Protection Plan, 1984, St. Croix National Scenic Riverway, National Park Service; (3) Land Protection Plan 1984, Lower St. Croix National Scenic Riverway, National Park Service; (4) Statement for Management, St. Croix and Lower St. Croix National Scenic Riverways, 1986, National Park Service; (5) Comprehensive Master Plan for the Management of the Upper Mississippi River System - Environmental Report, 1986, National Park Service; (6) St. Croix River Basin Areawide Water Quality Management Plan, 1980, Wisconsin Department of Natural Resources; (7) Statewide Comprehensive Outdoor Recreation Plan, 1985, Wisconsin Department of Natural Resources; (8) An Evaluation of the Sedimentation Process and Management Alternatives for the Trego Flowage, Washburn County, Wisconsin, 1989, Wisconsin Department of Natural Resources; and (9) North American Waterfowl Management Plan, 1986, U.S. Fish and Wildlife Service and Canadian Wildlife Service.

amount to about 14.4 mills per kWh. The total cost of 17.4 mills per kWh is less than the value of the project power, which is 42.0 mills per kWh. Therefore, we conclude that the continued operation of the Trego Project is economically beneficial.

I. SUMMARY OF FINDINGS

Sections 4(e) and 10(a)(1) of the FPA 34/ require the Commission, in acting on applications for license, to give equal consideration to the power and development purposes and to the purposes of energy conservation, the protection, mitigation of damage to, and enhancement of fish and wildlife, the protection of recreational opportunities, and the preservation of other aspects of environmental quality. Any license issued shall be such as in the Commission's judgment will be best adapted to a comprehensive plan for improving or developing a waterway for all beneficial public uses. The decision to license this project, and the terms and conditions included herein, reflect such consideration. We conclude that the Trego Project does not conflict with any planned or authorized development and is best adapted to comprehensive development of the waterway for beneficial public uses.

Background information, analysis of impacts, support for related license articles, and the basis for a finding of no significant impact on the environment are contained in the EA. Issuance of the license is not a major federal action significantly affecting the quality of the human environment.

The project will be safe if operated and maintained in accordance with the requirements of this license. Analysis of related issues is provided in the Safety and Design Assessment, which is available in the Commission's public file on this project.

J. PROJECT RETIREMENT

The Commission has issued a Notice of Inquiry (NOI), dated September 15, 1993, requesting comments that address the potential decommissioning of licensed hydropower projects at some future time, based on project-specific circumstances. 35/ The NOI states that the Commission is not proposing new regulations at this time, but is inviting comments on whether new regulations may be appropriate. Alternatively, the Commission may consider issuing a statement of policy addressing the decommissioning of licensed hydropower projects, or take other measures. The Trego

34/ 16 U.S.C. §§ 797(e) and 803(a)(1).

35/ Notice of Inquiry, Project Decommissioning at Relicensing, Docket No. RM93-23-000, September 15, 1993.

Project may be affected by future actions that the Commission takes with respect to issues raised in the NOI. Therefore, the license includes Article 202, which reserves authority to the Commission to require the licensee to conduct studies, make financial provisions, or otherwise make reasonable provisions for decommissioning of the project in appropriate circumstances.

By including Article 202, the Commission does not intend to prejudge the outcome of the NOI. We are simply including the article so that we will be in a position to make any lawful and appropriate changes in the terms and conditions of this license, which is being issued during the pendency of the NOI, based on the final outcome of that proceeding.

K. TERM OF LICENSE

Section 15(e) of the FPA 36/ specifies that any new license issued shall be for a term which the Commission determines to be in the public interest, but not less than thirty years nor more than fifty years from the date on which the license is issued. We apply this provision to subsequent licenses, as well. Commission policy establishes thirty-year terms for projects proposing no new construction or capacity, forty-year terms for projects proposing a moderate amount of new development, and fifty-year terms for projects proposing a substantial amount of new development. 37/ Northern proposes no redevelopment of existing project facilities and no changes in project operation. Accordingly, under our policy the new license for the Trego Project would be for a term of thirty years.

However, about thirty miles upstream from the Trego Project is Northern's Hayward Project No. 2417. The original license for the Trego Project expired on March 31, 1993, and the original license for the Hayward Project expired on December 31, 1993. Northern has filed subsequent license applications for both projects. Commission action on the Hayward Project is targeted for the latter half of 1994. In order to facilitate the Commission's future coordinated treatment of these two projects under the comprehensive development standard of the FPA, we will add 18 months to the Trego Project license term, so that, if the Hayward Project is in line to receive a subsequent 30-year license, its license term can be adjusted in order that both

36/ 16 U.S.C. § 808(e).

37/ See Montana Power Company, 56 FPC 2008, 2011-13 (1976).

project licenses will expire at approximately the same time. 38/

The Commission orders:

(A) This license is issued to Northern States Power Company (licensee) for a period of thirty-one years and six months, effective the first day of the month in which this order is issued, to operate and maintain the Trego Hydroelectric Project. This license is subject to the terms and conditions of the FPA, which is incorporated by reference as part of this license, and is subject to the regulations the Commission issues under the provisions of the FPA.

(B) The project consists of:

(1) All lands, to the extent of the licensee's interests in those lands, shown by Exhibit G-1, FERC No. 2711-1, showing the project's location.

(2) Project works consisting of: (1) a northeastern earthfill embankment section with a length of 380 feet and a maximum height of about 30 feet; (2) a southwestern earthfill embankment section with a length of 110 feet and a maximum height of about 25 feet; (3) an Ambursen-type buttress, hollow, concrete gravity spillway structure 92 feet long by 27 feet high, surmounted by three Taintor gates, each 25.5 feet long by 10 feet high, and a 6-foot-wide trash gate and sluiceway; (4) a reservoir about 6 miles long, with a surface area of 470 acres and an estimated capacity of 4,700 acre-feet at the normal water surface elevation of 1035.0 feet National Geodetic Vertical Datum (NGVD); (5) a reinforced concrete, steel, and brick powerhouse 59.5 feet long by 30.2 feet wide by 74 feet high above the foundation, located adjacent to the left end of the spillway structure; (6) powerhouse generating equipment consisting of two open flume vertical-axis Francis turbine-generator units rated at 700 kilowatts (kW) and 500 kW, for a total installed capacity of 1,200 kW; (7) a small substation; and (8) appurtenant equipment and facilities.

The project works generally described above are more specifically shown and described by those portions of Exhibits A and F below:

38/ If, for some reason the Hayward license is issued later than we currently expect, it would not receive less than a 30-year license. By adding the 18 months to Trego's license term, we have some flexibility, even if the Hayward license is issued later than we currently expect, to coordinate the project licenses' expiration dates by adding a few months to the Hayward license.

Exhibit A - The following sections of Exhibit A filed March 27, 1991:

Section 1.1, page 7, entitled "Existing Facilities," describing the generators; Section 2.0, page 7, entitled "Type of Hydraulic Turbines," describing the turbines; Section 10.0, page 12, entitled "Purpose of Project," describing the substation and transmission facilities; and the other sections of Exhibit A describing the appurtenant equipment.

Exhibit	FERC No.	Showing
F-1	2711-1	Principal project works - plan, section, and elevation
F-2	2711-2	Principal project works - plan, section, and elevation, and powerhouse
F-3	2711-3	Principal project works - powerhouse floor plan

(3) All of the structures, fixtures, equipment or facilities used to operate or maintain the project, all portable property that may be employed in connection with the project, and all riparian or other rights that are necessary or appropriate in the operation or maintenance of the project.

(C) The Exhibits A, F, and G described above are approved and made part of the license.

(D) The following sections of the FPA are waived and excluded from the license for this minor project:

4(b),except the second sentence; 4(e), insofar as it relates to approval of plans by the Chief of Engineers and the Secretary of the Army; 6, insofar as it relates to public notice and to the acceptance and expression in the license of terms and conditions of the FPA that are waived here; 10(c), insofar as it relates to depreciation reserves; 10(d); 10(f); 14, except insofar as the power of condemnation is reserved; 15; 16; 19; 20; and 22.

(E) This license is subject to the articles set forth in Form L-9 (October 1975), entitled "TERMS AND CONDITIONS OF LICENSE FOR CONSTRUCTED MINOR PROJECTS AFFECTING NAVIGABLE WATERS OF THE UNITED STATES," and the following additional articles:

Article 201. The licensee shall pay the United States an annual charge, effective the first day of the month in which this license is issued, for the purpose of reimbursing the United

States for the cost of administration of Part I of the FPA, as determined by the Commission. The authorized installed capacity for that purpose is 1,880 horsepower.

Article 202. The Commission reserves authority, in the context of a rulemaking proceeding or a proceeding specific to this license, to require the licensee at any time to conduct studies, make financial provisions, or otherwise make reasonable provisions for decommissioning of the project. The terms of this article shall be effective unless the Commission, in Docket No. RM93-23, finds that the Commission lacks statutory authority to require such actions, or otherwise determines that the article should be rescinded.

Article 401. The licensee shall operate the project in a run-of-river mode so that, at any point in time, streamflow, as measured immediately downstream from the project tailrace, approximates the sum of inflows to the Trego impoundment. Under normal operating conditions, the licensee shall maintain the elevation of the Trego impoundment at a target elevation of 1,034.9 feet msl, with fluctuations limited to 0.3 foot around the target elevation, or between elevations 1,034.6 and 1,035.2 feet msl. Run-of-river operation may be temporarily modified if required by operating emergencies beyond the control of the licensee, and for short periods upon mutual agreement between the licensee, the Wisconsin Department of Natural Resources, the National Park Service, and the U.S. Fish and Wildlife Service. If the flow is so modified, the licensee shall notify the Commission as soon as possible, but no later than ten days after each such incident.

Article 402. The licensee shall operate and maintain the existing headwater and tailwater streamflow monitoring equipment and staff gages in the Namekagon River to monitor compliance with the run-of-river mode of operation as stipulated by Article 401. Furthermore, the licensee shall provide improved visibility features on the staff gages to permit easy public scrutiny of operation. The project flow records shall be made available to the U.S. Geological Survey, the National Park Service, the U.S. Fish and Wildlife Service, and the Wisconsin Department of Natural Resources within thirty days of the agency's request for the data.

Article 403. Within six months from the effective date of this license, the licensee shall provide to the Wisconsin Department of Natural Resources $5,000 for sturgeon restoration above Trego Dam and $500 for a study to assess the potential for restoring the gilt darter above Trego Dam. If the assessment indicates that there are no gilt darters above the dam, and if suitable habitat is identified, the licensee shall provide up to $2,000 to Natural Resources for restoration efforts. The licensee shall file a progress report on this matter with the

Commission, together with the comments of Natural Resources, within two years from the effective date of this license.

Article 404. Authority is reserved to the Commission to require the licensee to construct, operate, and maintain, or to provide for the construction, operation, and maintenance, of such fishways as may be prescribed by the Secretary of the Interior pursuant to Section 18 of the FPA.

Article 405. The licensee shall prepare a drawdown management plan for Commission approval. The plan shall include two components: (1) a needs analysis, to be filed six months from the effective date of this license and subsequently updated at periodic intervals; and (2) if a need is identified initially or in the future, a drawdown implementation plan to be filed within six months of the initial determination of need.

The needs analysis shall include: (a) a study to determine the amount of recreational use at the Trego impoundment, (b) a qualitative and quantitative aquatic macrophyte survey to determine the extent of aquatic vegetation in the Trego impoundment, and (c) an analysis of the effect of the vegetation and sedimentation on recreational access and use of the Trego impoundment. The needs analysis shall also consider alternative management techniques and options to drawdown (e.g., dredging, chemical treatment), and an analysis of their costs, to maintain recreational use of the impoundment.

If a drawdown is needed, the licensee shall prepare a drawdown implementation plan to include: (a) an evaluation of the consistency of a drawdown with the management objectives of the Park Service, (b) the identification of appropriate pre-drawdown studies, including any sediment sampling in the impoundment, (c) an evaluation of the specific timing, degree, and duration of the proposed drawdown, (d) evidence that appropriate state permits have been obtained, and (e) a schedule for monitoring the effects of the drawdown. The licensee shall provide a 230-cfs minimum flow release at all times during any future drawdown and the subsequent refilling of the impoundment, and shall draw down the impoundment at a rate not to exceed one foot per day for the first four days of the drawdown.

The licensee shall conduct its needs analysis and all subsequent updates, and prepare any drawdown implementation plan(s), in consultation with the U.S. Fish and Wildlife Service, the National Park Service, the Wisconsin Department of Natural Resources, and the Trego Lake District. The licensee shall include with its filings documentation of consultation and copies of any comments and recommendations of the agencies and the Trego Lake District. If the licensee does not adopt a recommendation from any of the agencies, the filing shall include the licensee's reasons, based on project-specific information.

The needs analysis shall be filed for Commission approval within six months from the effective date of this license. The needs analysis shall be updated by the licensee as required by the Commission's regulations, 18 C.F.R 8.11 (1993), in conjunction with the filing of the standard FERC Form 80, Licensed Hydropower Development Recreation Reports. If the needs analysis, or any subsequent updates, indicate that a need for a drawdown exists, the licensee shall proceed with the preparation of an implementation plan, as described above, and file the plan for Commission approval within six months after identifying a need. The Commission reserves the right to require changes to the implementation plan. Upon Commission approval of the plan, the licensee shall implement any measures required by the Commission.

Article 406. The licensee shall implement the provisions of the "PROGRAMMATIC AGREEMENT AMONG THE FEDERAL ENERGY REGULATORY COMMISSION, THE ADVISORY COUNCIL ON HISTORIC PRESERVATION, AND THE WISCONSIN STATE HISTORIC PRESERVATION OFFICER FOR THE MANAGEMENT OF HISTORIC PROPERTIES AFFECTED BY THE TREGO HYDROELECTRIC PROJECT," executed on June 16, 1992. The Commission reserves the authority to require changes to any cultural resources management plan or plans at any time during the term of the license.

Article 407. The licensee shall provide the following recreational improvements at the project: (1) provide signs indicating the parking area for walk-in fishing off North River Road; (2) provide trash receptacles and portable toilets at its existing portage trail during the period between Memorial Day and Labor Day each year; and (3) periodically cut the emergent aquatic vegetation at its upstream canoe take-out area to improve access. In addition, the licensee shall provide its 1990 recreational use survey data to the Wisconsin Department of Natural Resources.

The licensee shall provide the recreational improvements after consultation with the U.S. Fish and Wildlife Service, the National Park Service, and the Wisconsin Department of Natural Resources. The completed facilities and access shall be shown on the as-built drawings filed pursuant to this license.

The licensee shall file a report with the as-built drawings which shall include the entity responsible for operation and maintenance of the facilities and access, and documentation of resource agency consultation and copies of the agency comments and recommendations on the report after it has been prepared and provided to the agencies, including specific descriptions of how the agencies' comments are accommodated by the report. The report shall include a description of how the needs of the disabled were considered, and indicate the specific project facilities, if any, that would be available for use by the

disabled. The licensee shall allow a minimum of thirty days for the agencies to comment and to make recommendations prior to filing the report with the Commission.

Article 408. The licensee, after consultation with the Wisconsin Department of Natural Resources, the National Park Service, U.S. Fish and Wildlife Service and other local agencies responsible for recreational facility planning, shall monitor recreation use of the project area to determine whether existing recreation facilities are meeting recreation needs. Monitoring studies shall begin within 6 years of the date this license is issued and follow the schedule thereafter for the submittal of FERC Form 80. Monitoring studies, at a minimum, shall include the collection of annual recreation use data.

Every 6 years during the term of the license, in accordance with the schedule for FERC Form 80, the licensee shall file a report with the Commission on the monitoring results. the report shall include:

(1) annual recreation use figures;

(2) a discussion of the adequacy of the licensee's recreation facilities at the project site to meet recreation demand;

(3) a description of the methodology used to collect all

study data;

(4) if there is a need for additional facilities, a recreation plan proposed by the licensee to accommodate recreation needs in the project area;

(5) documentation of agency consultation and agency comments on the report after it has been prepared and provided to the agencies; and

(6) specific descriptions of how the agencies' comments are accommodated by the report.

The licensee shall allow a minimum of 30 days for the agencies to comment and make recommendations prior to filing the report with the Commission.

Article 409. (a) In accordance with the provisions of this article, the licensee shall have the authority to grant permission for certain types of use and occupancy of project lands and waters and to convey certain interests in project lands and waters for certain types of use and occupancy, without prior Commission approval. The licensee may exercise the authority only if the proposed use and occupancy is consistent with the purposes of protecting and enhancing the scenic, recreational,

and other environmental values of the project. For those purposes, the licensee shall also have continuing responsibility to supervise and control the use and occupancies for which it grants permission, and to monitor the use of, and ensure compliance with the covenants of the instrument of conveyance for, any interests that it has conveyed under this article. If a permitted use and occupancy violates any condition of this article or any other condition imposed by the licensee for protection and enhancement of the project's scenic, recreational, or other environmental values, or if a covenant of a conveyance made under the authority of this article is violated, the licensee shall take any lawful action necessary to correct the violation. For a permitted use or occupancy, that action includes, if necessary, canceling the permission to use and occupy the project lands and waters and requiring the removal of any non-complying structures and facilities.

(b) The type of use and occupancy of project lands and water for which the licensee may grant permission without prior Commission approval are: (1) landscape plantings; (2) non-commercial piers, landings, boat docks, or similar structures and facilities that can accommodate no more than 10 watercraft at a time and where said facility is intended to serve single-family type dwellings; (3) embankments, bulkheads, retaining walls, or similar structures for erosion control to protect the existing shoreline; and (4) food plots and other wildlife enhancement. To the extent feasible and desirable to protect and enhance the project's scenic, recreational, and other environmental values, the licensee shall require multiple use and occupancy of facilities for access to project lands or waters. The licensee shall also ensure, to the satisfaction of the Commission's authorized representative, that the use and occupancies for which it grants permission are maintained in good repair and comply with applicable state and local health and safety requirements. Before granting permission for construction of bulkheads or retaining walls, the licensee shall: (1) inspect the site of the proposed construction; (2) consider whether the planting of vegetation or the use of riprap would be adequate to control erosion at the site; and (3) determine that the proposed construction is needed and would not change the basic contour of the reservoir shoreline. To implement this paragraph the licensee may, among other things, establish a program for issuing permits for the specified types of uses and occupancy of project lands and waters, which may be subject to the payment of a reasonable fee to cover the licensee's costs of administering the permit program. The Commission reserves the right to require the licensee to file a description of its standards, guidelines, and procedures for implementing this paragraph and to require modification of those standards, guidelines, or procedures.

(c) The licensee may convey easements or rights-of-way across, or leases of, project lands for: (1) replacement, expan-

sion, realignment, or maintenance of bridges or roads where all necessary state and federal approvals have been obtained; (2) storm drains and water mains; (3) sewers that do not discharge into project waters; (4) minor access roads; (5) telephone, gas, and electric utility distribution lines; (6) non-project overhead electric transmission lines that do not require erection of support structures within the project boundary; (7) submarine, overhead, or underground major telephone distribution cables or major electric distribution lines (69-kV or less); and (8) water intake or pumping facilities that do not extract more than one million gallons per day from a project reservoir. No later than January 31 of each year, the licensee shall file three copies of a report briefly describing for each conveyance made under this paragraph during the prior calendar year, the type of interest conveyed, the location of the lands subject to the conveyance, and the nature of the use for which the interest was conveyed. If no conveyance was made during the prior calendar year, the licensee shall so inform the Commission and the Regional Director in writing no later than January 31 of each year.

(d) The licensee may convey fee title to, easements or rights-of-way across, or leases of project lands for: (1) construction of new bridges or roads for which all necessary state and federal approvals have been obtained; (2) sewer or effluent lines that discharge into project waters, for which all necessary federal and state water quality certification or permits have been obtained; (3) other pipelines that cross project lands or waters but do not discharge into project waters; (4) non-project overhead electric transmission lines that require erection of support structures within the project boundary, for which all necessary federal and state approvals have been obtained; (5) private or public marinas that can accommodate no more than 10 watercraft at a time and are located at least one-half mile (measured over project waters) from any other private or public marina; (6) recreational development consistent with an approved Exhibit R or approved report on recreational resources of an Exhibit E; and (7) other uses, if: (i) the amount of land conveyed for a particular use is five acres or less; (ii) all of the land conveyed is located at least seventy-five feet, measured horizontally, from project waters at normal surface elevation; and (iii) no more than fifty total acres of project lands for each project development are conveyed under this clause in any calendar year. At least sixty days before conveying any interest in project lands under this paragraph, the licensee must submit a letter to the Director, Office of Hydropower Licensing, stating its intent to convey the interest and briefly describing the type of interest and location of the lands to be conveyed (a marked Exhibit G or K map may be used), the nature of the proposed use, the identity of any federal or state agency official consulted, and any federal or state approvals required for the proposed use. Unless the Director, within forty-five days from the filing date,

requires the licensee to file an application for prior approval, the licensee may convey the intended interest at the end of that period.

(e) The following additional conditions apply to any intended conveyance under paragraph (c) or (d) of this article:

(1) Before conveying the interest, the licensee shall consult with federal and state fish and wildlife or recreation agencies, as appropriate, and the State Historic Preservation Officer.

(2) Before conveying the interest, the licensee shall determine that the proposed use of the lands to be conveyed is not inconsistent with any approved Exhibit R or approved report on recreational resources of an Exhibit E; or, if the project does not have an approved Exhibit R or approved report on recreational resources, that the lands to be conveyed do not have recreational value.

(3) The instrument of conveyance must include the following covenants running with the land: (i) the use of the lands conveyed shall not endanger health, create a nuisance, or otherwise be incompatible with overall project recreational use; (ii) the grantee shall take all reasonable precautions to ensure that the construction, operation, and maintenance of structures or facilities on the conveyed lands will occur in a manner that will protect the scenic, recreational, and environmental values of the project; and (iii) the grantee shall not unduly restrict public access to project waters.

(4) The Commission reserves the right to require the licensee to take reasonable remedial action to correct any violation of the terms and conditions of this article, for the protection and enhancement of the project's scenic, recreational, and other environmental values.

(f) The conveyance of an interest in project lands under this article does not in itself change the project boundaries. The project boundaries may be changed to exclude land conveyed under this article only upon approval of revised Exhibit G or K drawings (project boundary maps) reflecting exclusion of that land. Lands conveyed under this article will be excluded from the project only upon a determination that the lands are not necessary for project purposes, such as operation and maintenance, flowage, recreation, public access, protection of environmental resources, and shoreline control, including shoreline aesthetic values. Absent extraordinary circumstances, proposals to exclude lands conveyed under this article from the project shall be consolidated for consideration when revised Exhibit G or K drawings would be filed for approval for other purposes.

(g) The authority granted to the licensee under this article shall not apply to any part of the public lands and reservations of the United States included within the project boundary.

(F) The licensee shall serve copies of any Commission filing required by this order on any entity specified in this order to be consulted on matters related to that filing. Proof of service on these entities must accompany the filing with the Commission.

(G) This order is final unless a request for rehearing is filed within 30 days of the date of issuance of this order, pursuant to Section 313 of the FPA. The filing of a request for rehearing does not operate as a stay of the effective date of this order or of any other date specified in this order, except as specifically ordered by the Commission. The licensee's failure to file a request for rehearing shall constitute acceptance of this order.

By the Commission.

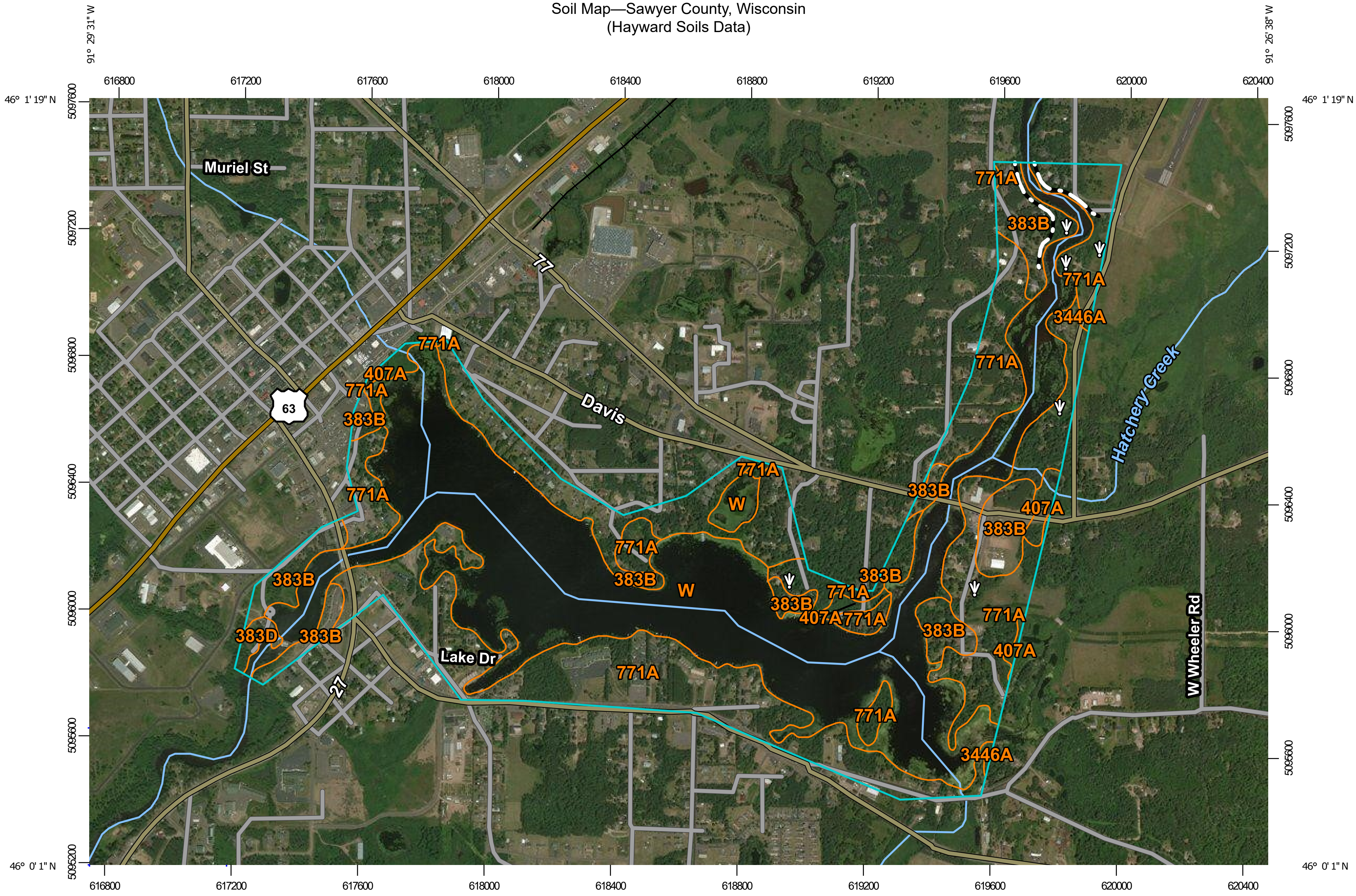
(S E A L)

Lois D. Cashell,
Secretary.

APPENDIX NOT ON DISC

APPENDIX 4.2.2.1-1 Hayward Project Soils Report

Soil Map—Sawyer County, Wisconsin
(Hayward Soils Data)



Map Scale: 1:17,000 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0, 250, 500, 1000, 1500

Feet: 0, 500, 1000, 2000, 3000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Sawyer County, Wisconsin
Survey Area Data: Version 18, Jun 8, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 28, 2012—Jul 8, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
383B	Mahtomedi loamy sand, 0 to 6 percent slopes	87.2	16.1%
383D	Mahtomedi loamy sand, 12 to 30 percent slopes	2.8	0.5%
407A	Seelyeville and Markey soils, 0 to 1 percent slopes	9.4	1.7%
771A	Lenroot loamy sand, 0 to 3 percent slopes	192.4	35.6%
3446A	Newson muck, 0 to 2 percent slopes	1.3	0.2%
W	Water	247.7	45.8%
Totals for Area of Interest		**540.9**	**100.0%**

RUSLE2 Related Attributes

This report summarizes those soil attributes used by the Revised Universal Soil Loss Equation Version 2 (RUSLE2) for the map units in the selected area. The report includes the map unit symbol, the component name, and the percent of the component in the map unit. Soil property data for each map unit component include the hydrologic soil group, erosion factor Kf for the surface horizon, erosion factor T, and the representative percentage of sand, silt, and clay in the mineral surface horizon. Missing surface data may indicate the presence of an organic layer.

Report—RUSLE2 Related Attributes

Soil properties and interpretations for erosion runoff calculations. The surface mineral horizon properties are displayed or the first mineral horizon below an organic surface horizon. Organic horizons are not displayed.

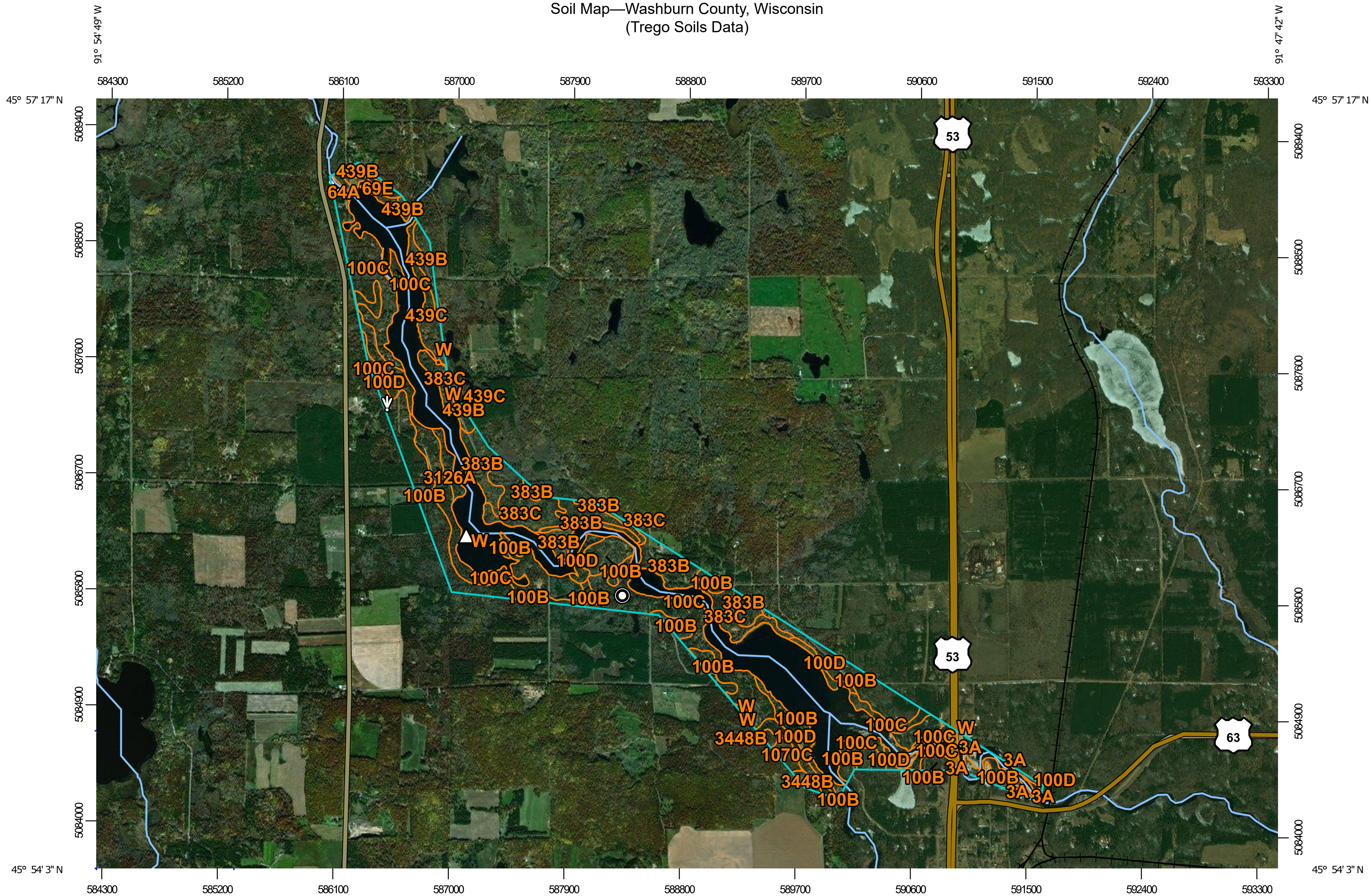
RUSLE2 Related Attributes–Sawyer County, Wisconsin								
Map symbol and soil name	Pct. of map unit	Slope length (ft)	Hydrologic group	Kf	T factor	Representative value		
						% Sand	% Silt	% Clay
383B—Mahtomedi loamy sand, 0 to 6 percent slopes								
Mahtomedi	75	200	A	.10	5	82.5	9.0	8.5
383D—Mahtomedi loamy sand, 12 to 30 percent slopes								
Mahtomedi	80	79	A	.10	5	82.5	9.0	8.5
407A—Seelyeville and Markey soils, 0 to 1 percent slopes								
Markey	35	249	B/D	—	1	—	—	—
771A—Lenroot loamy sand, 0 to 3 percent slopes								
Lenroot	85	249	A	.10	5	82.5	9.0	8.5
3446A—Newson muck, 0 to 2 percent slopes								
Newson	85	249	A/D	.17	5	80.5	17.0	2.5

Data Source Information

Soil Survey Area: Sawyer County, Wisconsin
Survey Area Data: Version 18, Jun 8, 2020

APPENDIX 4.2.2.2-1 **Trego Project Soils Report**

Soil Map—Washburn County, Wisconsin
(Trego Soils Data)



Map Scale: 1:42,100 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0, 500, 1000, 2000, 3000

Feet: 0, 2000, 4000, 8000, 12000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 15N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:12,000.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Washburn County, Wisconsin
Survey Area Data: Version 20, Jun 8, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Jun 28, 2012—Jul 8, 2016

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
3A	Totagatic-bowstring-ausable complex, 0 to 2 percent slopes, frequently flooded	13.1	1.1%
64A	Totagatic-Winterfield complex, 0 to 2 percent slopes, frequently flooded	2.7	0.2%
69C	Keweenaw-Sayner-Vilas complex, 1 to 15 percent slopes, stony	5.0	0.4%
69E	Keweenaw-Sayner-Vilas complex, 5 to 35 percent slopes, stony	0.4	0.0%
100B	Menahga sand, 0 to 6 percent slopes	228.1	18.5%
100C	Menahga sand, 6 to 12 percent slopes	254.1	20.6%
100D	Menahga sand, 12 to 30 percent slopes	57.0	4.6%
383B	Mahtomedi loamy sand, 0 to 6 percent slopes	89.4	7.3%
383C	Mahtomedi loamy sand, 6 to 12 percent slopes	85.8	7.0%
383D	Mahtomedi loamy sand, 12 to 30 percent slopes	6.8	0.6%
439B	Graycalm-Menahga complex, 0 to 6 percent slopes	18.9	1.5%
439C	Graycalm-Menahga complex, 6 to 12 percent slopes	25.9	2.1%
439D	Graycalm-Menahga complex, 12 to 30 percent slopes	7.5	0.6%
1070C	Fremstadt, stony-Cress complex, 6 to 15 percent slopes	8.2	0.7%
3126A	Wurtsmith loamy sand, 0 to 3 percent slopes	10.4	0.8%
3448B	Grettum loamy sand, 0 to 6 percent slopes	7.2	0.6%
W	Water	412.6	33.5%
Totals for Area of Interest		**1,233.3**	**100.0%**

RUSLE2 Related Attributes

This report summarizes those soil attributes used by the Revised Universal Soil Loss Equation Version 2 (RUSLE2) for the map units in the selected area. The report includes the map unit symbol, the component name, and the percent of the component in the map unit. Soil property data for each map unit component include the hydrologic soil group, erosion factor Kf for the surface horizon, erosion factor T, and the representative percentage of sand, silt, and clay in the mineral surface horizon. Missing surface data may indicate the presence of an organic layer.

Report—RUSLE2 Related Attributes

Soil properties and interpretations for erosion runoff calculations. The surface mineral horizon properties are displayed or the first mineral horizon below an organic surface horizon. Organic horizons are not displayed.

RUSLE2 Related Attributes–Washburn County, Wisconsin

Map symbol and soil name	Pct. of map unit	Slope length (ft)	Hydrologic group	Kf	T factor	Representative value		
						% Sand	% Silt	% Clay
3A—Totagatic-bowstring-ausable complex, 0 to 2 percent slopes, frequently flooded								
Totagatic	40	249	A/D	.24	5	79.2	15.8	5.0
Bowstring	30	249	A/D	—	1	—	—	—
Ausable	20	249	A/D	.02	1	92.9	1.6	5.5
64A—Totagatic-Winterfield complex, 0 to 2 percent slopes, frequently flooded								
Totagatic	50	249	A/D	.24	5	79.2	15.8	5.0
Winterfield	40	249	A/D	.10	5	83.5	9.0	7.5
69C—Keweenaw-Sayner-Vilas complex, 1 to 15 percent slopes, stony								
Keweenaw, stony	35	151	A	.10	5	76.0	19.0	5.0
Sayner, stony	20	—	A	.10	5	82.0	15.0	3.0
Vilas, stony	20	—	A	.10	5	82.0	15.0	3.0
69E—Keweenaw-Sayner-Vilas complex, 5 to 35 percent slopes, stony								
Keweenaw, stony	35	59	A	.10	5	76.0	19.0	5.0
Sayner, stony	20	—	A	.10	5	82.0	15.0	3.0
Vilas, stony	20	—	A	.10	5	82.0	15.0	3.0

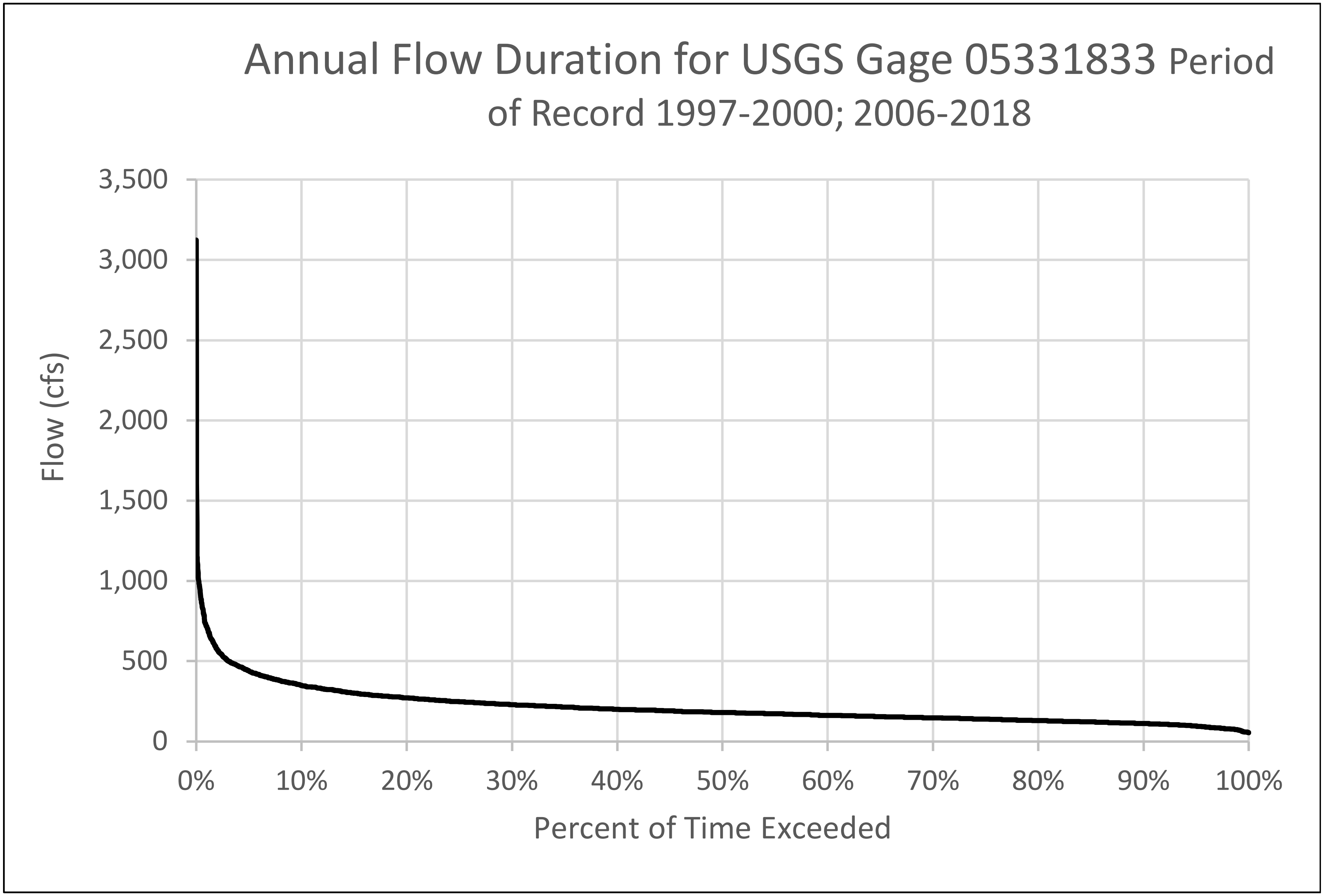
RUSLE2 Related Attributes–Washburn County, Wisconsin								
Map symbol and soil name	Pct. of map unit	Slope length (ft)	Hydrologic group	Kf	T factor	Representative value		
						% Sand	% Silt	% Clay
100B—Menahga sand, 0 to 6 percent slopes								
Menahga	88	200	A	.02	5	94.6	1.4	4.0
100C—Menahga sand, 6 to 12 percent slopes								
Menahga	88	151	A	.02	5	94.6	1.4	4.0
100D—Menahga sand, 12 to 30 percent slopes								
Menahga	95	79	A	.02	5	94.6	1.4	4.0
383B—Mahtomedi loamy sand, 0 to 6 percent slopes								
Mahtomedi	75	200	A	.10	5	82.5	9.0	8.5
383C—Mahtomedi loamy sand, 6 to 12 percent slopes								
Mahtomedi	75	151	A	.10	5	82.5	9.0	8.5
383D—Mahtomedi loamy sand, 12 to 30 percent slopes								
Mahtomedi	80	79	A	.10	5	82.5	9.0	8.5
439B—Graycalm-Menahga complex, 0 to 6 percent slopes								
Graycalm	55	200	A	.20	5	77.7	16.3	6.0
Menahga	30	200	A	.02	5	94.6	1.4	4.0
439C—Graycalm-Menahga complex, 6 to 12 percent slopes								
Graycalm	55	151	A	.20	5	77.7	16.3	6.0
Menahga	35	151	A	.02	5	94.6	1.4	4.0
439D—Graycalm-Menahga complex, 12 to 30 percent slopes								
Graycalm	60	79	A	.20	5	77.7	16.3	6.0
Menahga	35	79	A	.02	5	94.6	1.4	4.0
1070C—Fremstadt, stony-Cress complex, 6 to 15 percent slopes								
Fremstadt, stony	40	151	A	.24	5	66.9	23.1	10.0
Cress	20	151	B	.24	2	65.3	23.2	11.5
3126A—Wurtsmith loamy sand, 0 to 3 percent slopes								
Wurtsmith	85	249	A	.17	5	81.1	13.9	5.0

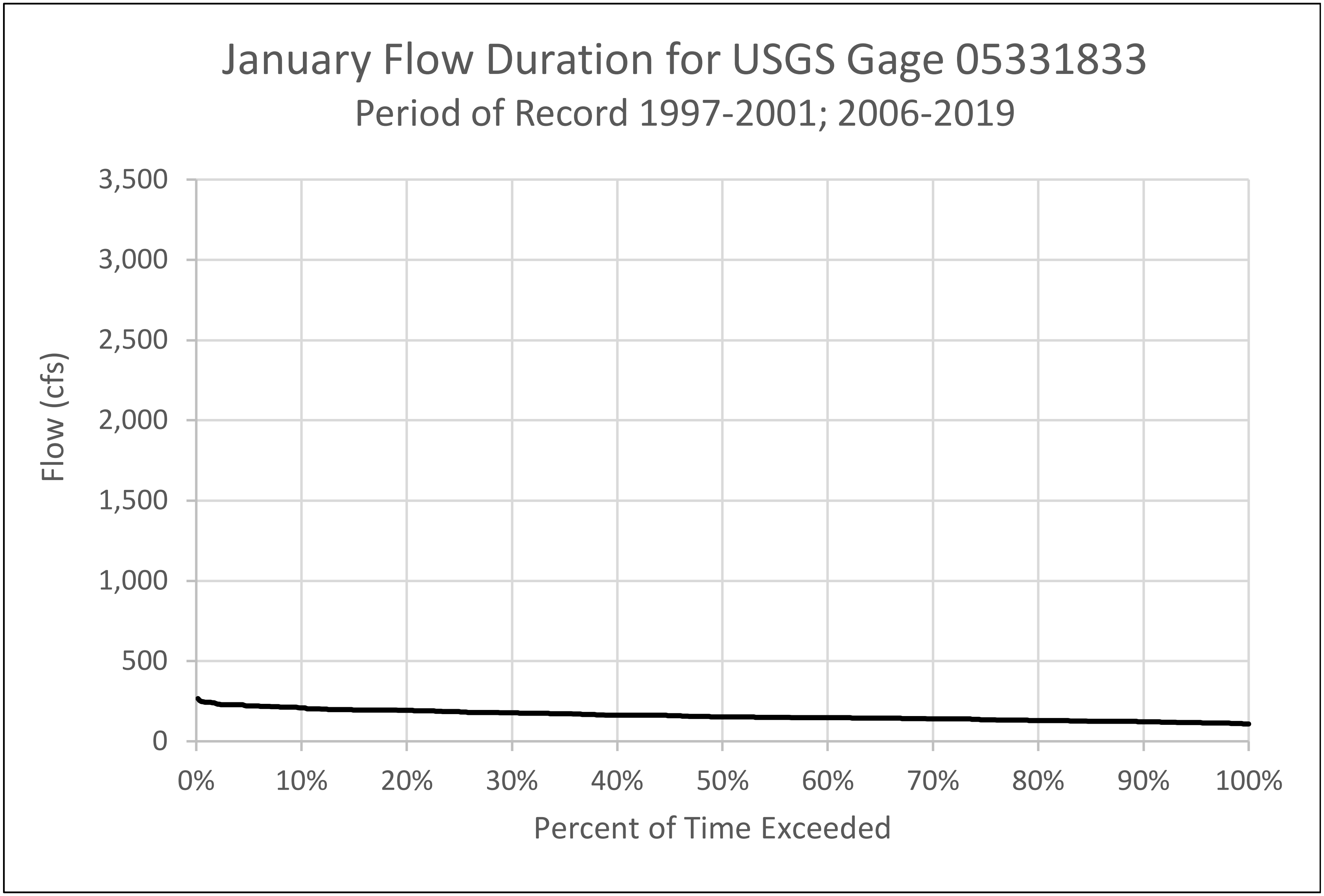
RUSLE2 Related Attributes–Washburn County, Wisconsin								
Map symbol and soil name	Pct. of map unit	Slope length (ft)	Hydrologic group	Kf	T factor	Representative value		
						% Sand	% Silt	% Clay
3448B—Grettum loamy sand, 0 to 6 percent slopes								
Grettum	80	200	A	.10	5	84.5	8.5	7.0

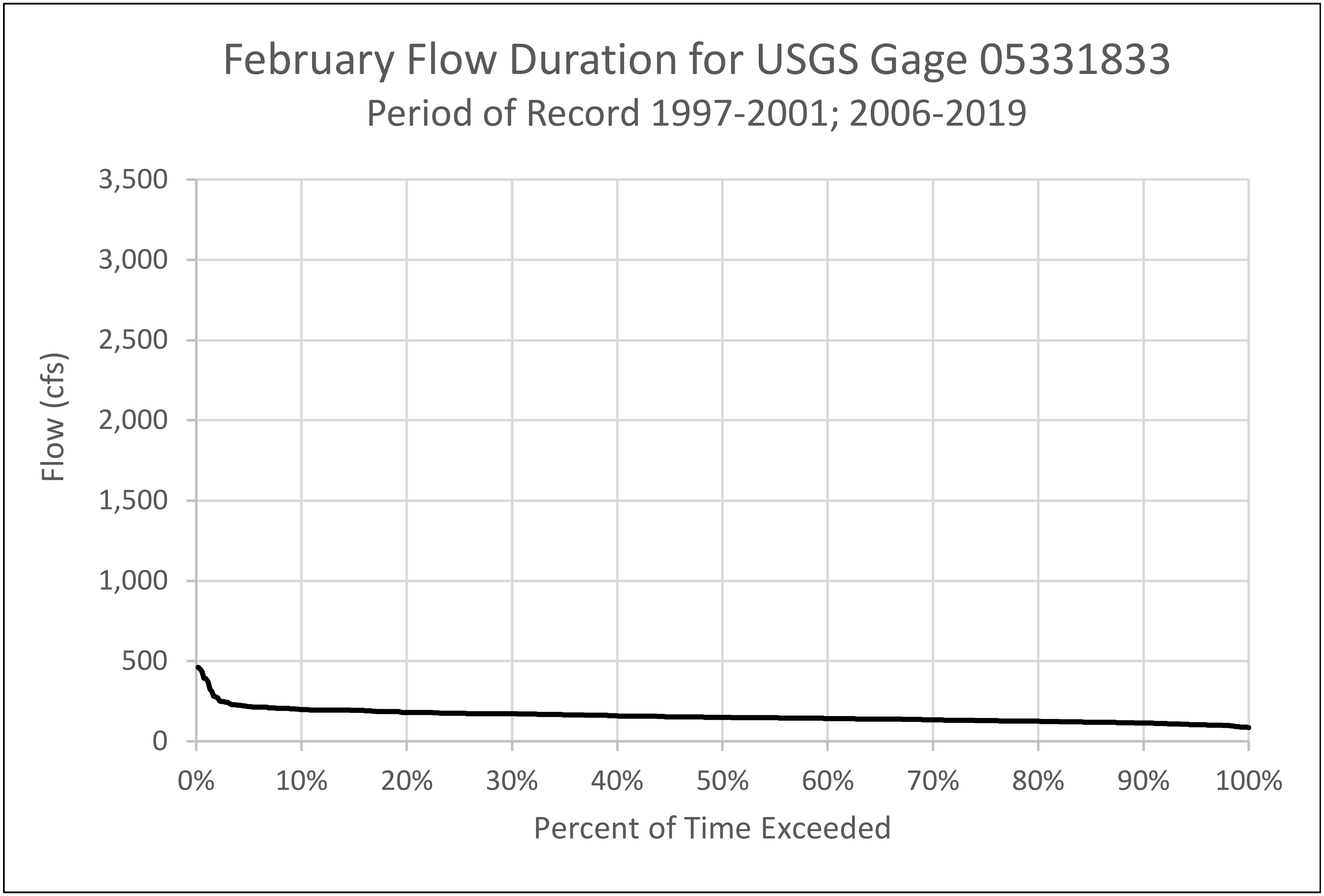
Data Source Information

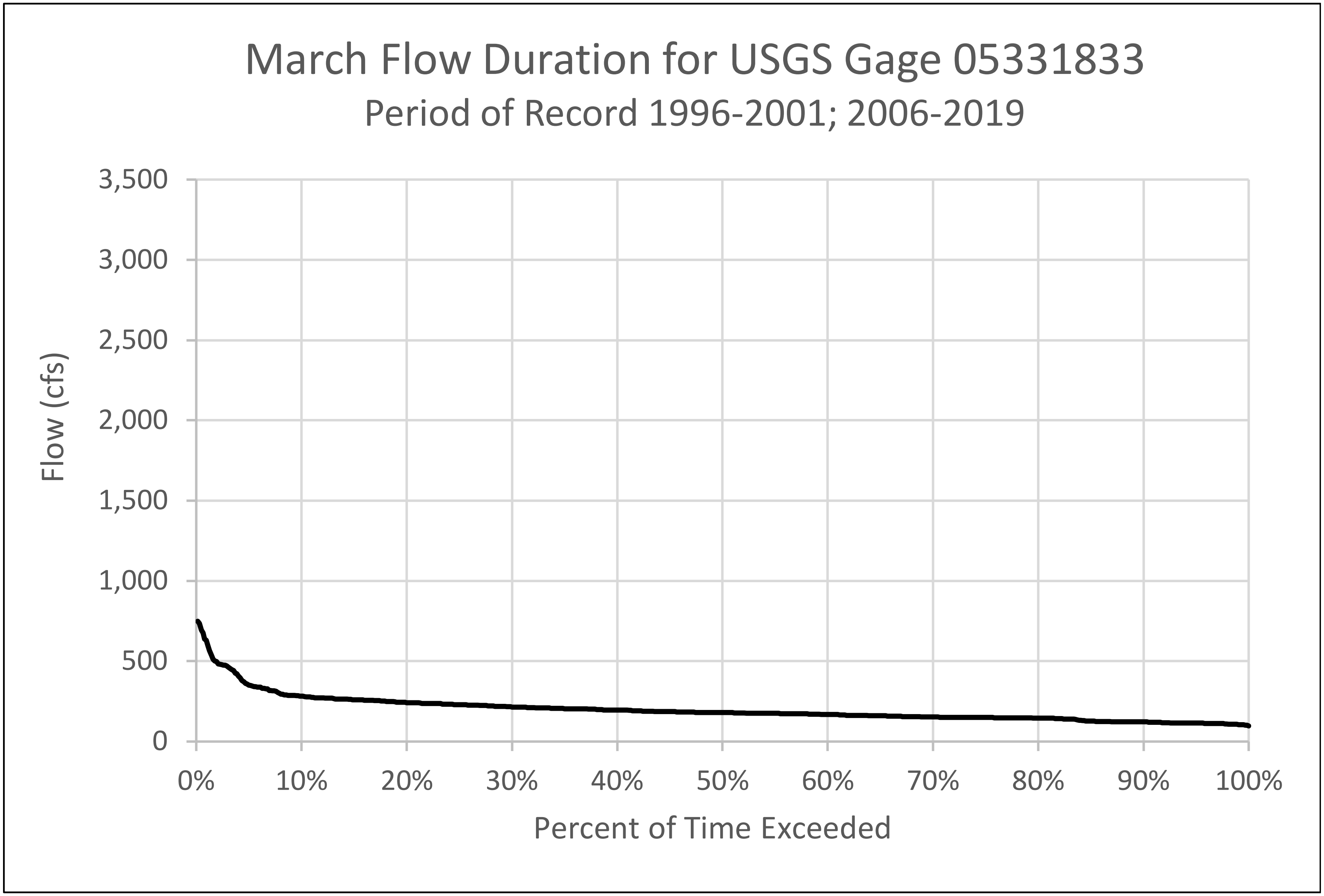
Soil Survey Area: Washburn County, Wisconsin
Survey Area Data: Version 20, Jun 8, 2020

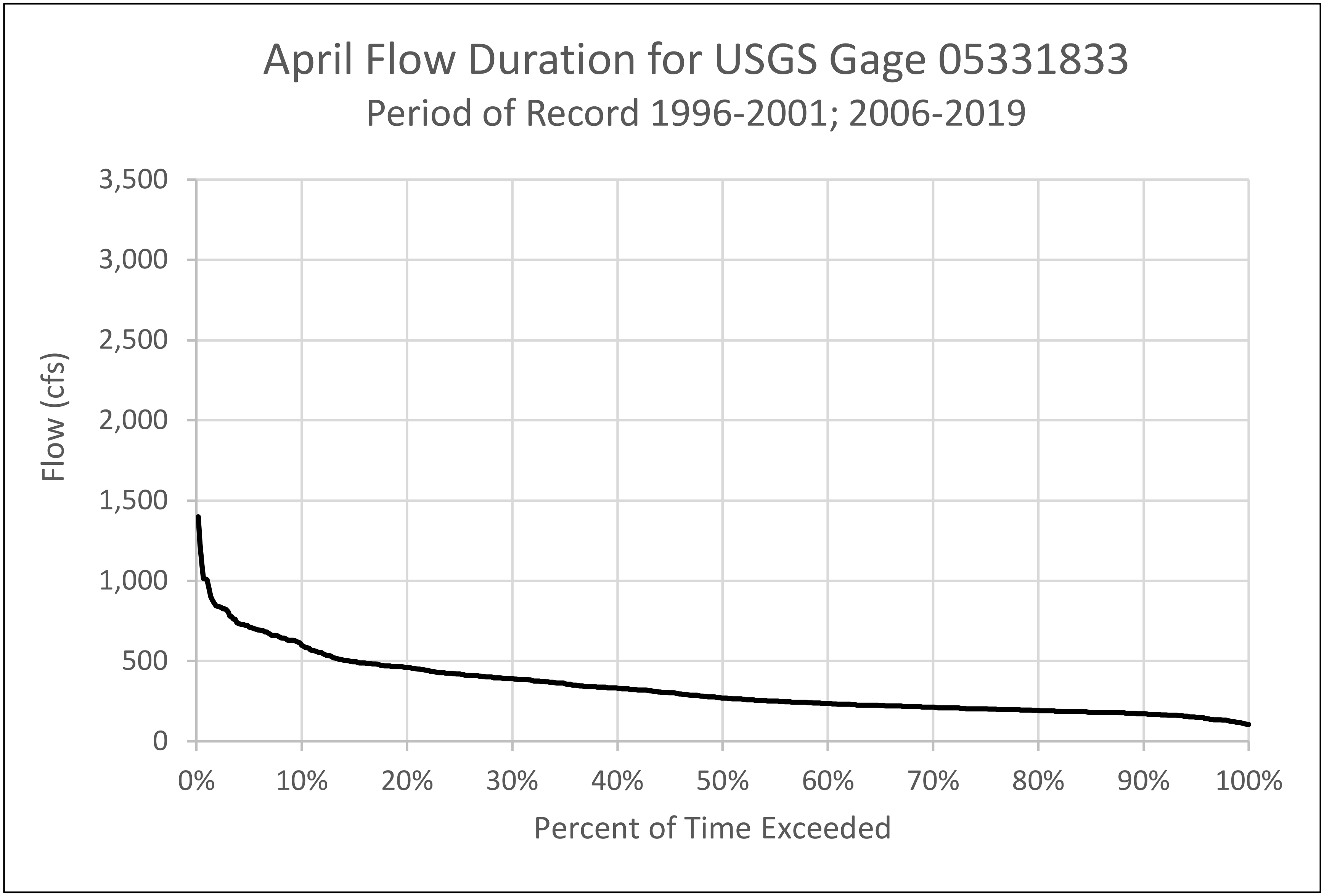
APPENDIX 4.3.2.1-1 **Hayward Project Flow Duration Curves and Exceedance Table**


Annual Flow Duration for USGS Gage 05331833 Period of Record 1997-2000; 2006-2018
Flow (cfs)
3,500
3,000
2,500
2,000
1,500
1,000
500
0
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Percent of Time Exceeded

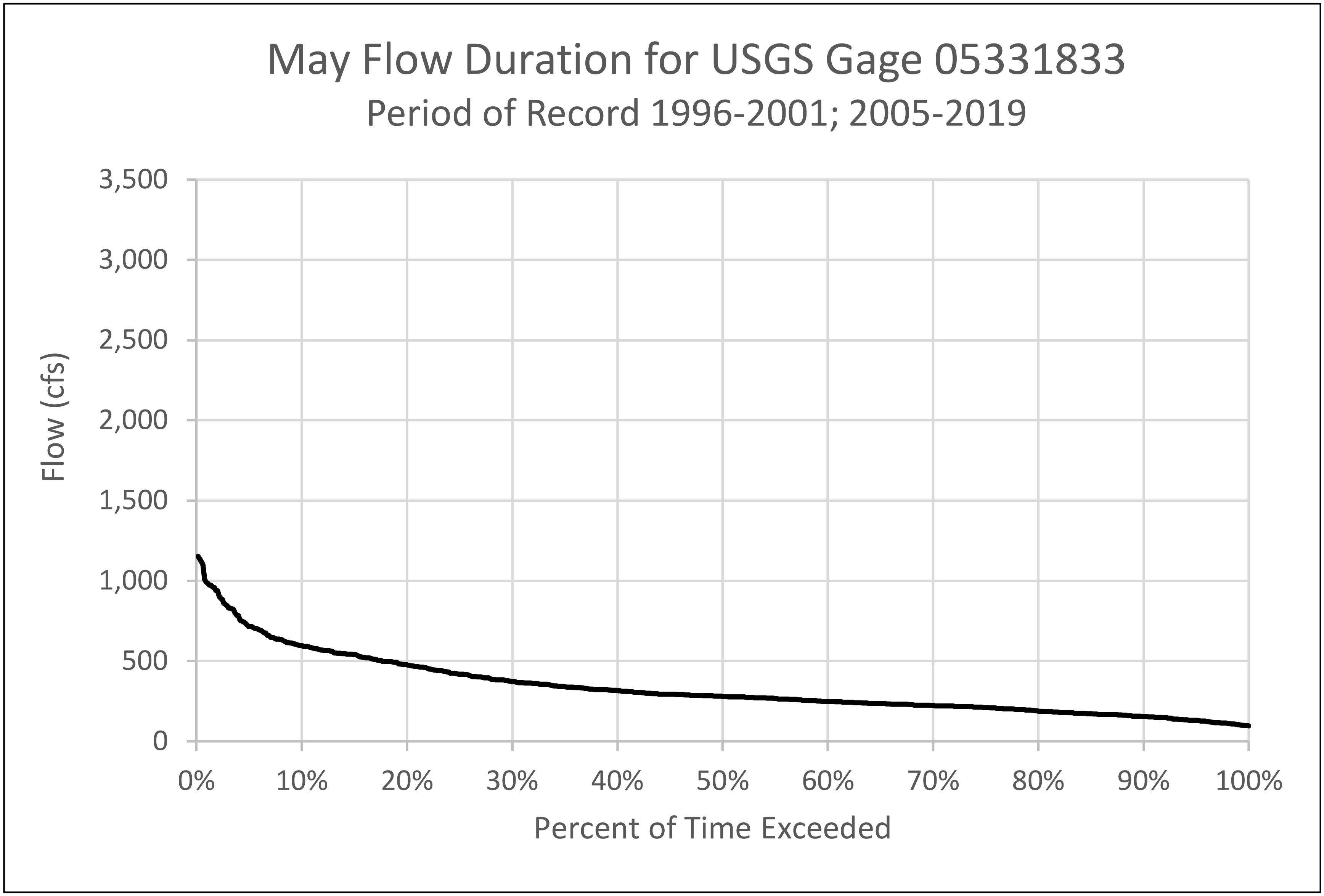

January Flow Duration for USGS Gage 05331833
Period of Record 1997-2001; 2006-2019
Flow (cfs)
3,500
3,000
2,500
2,000
1,500
1,000
500
0
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Percent of Time Exceeded

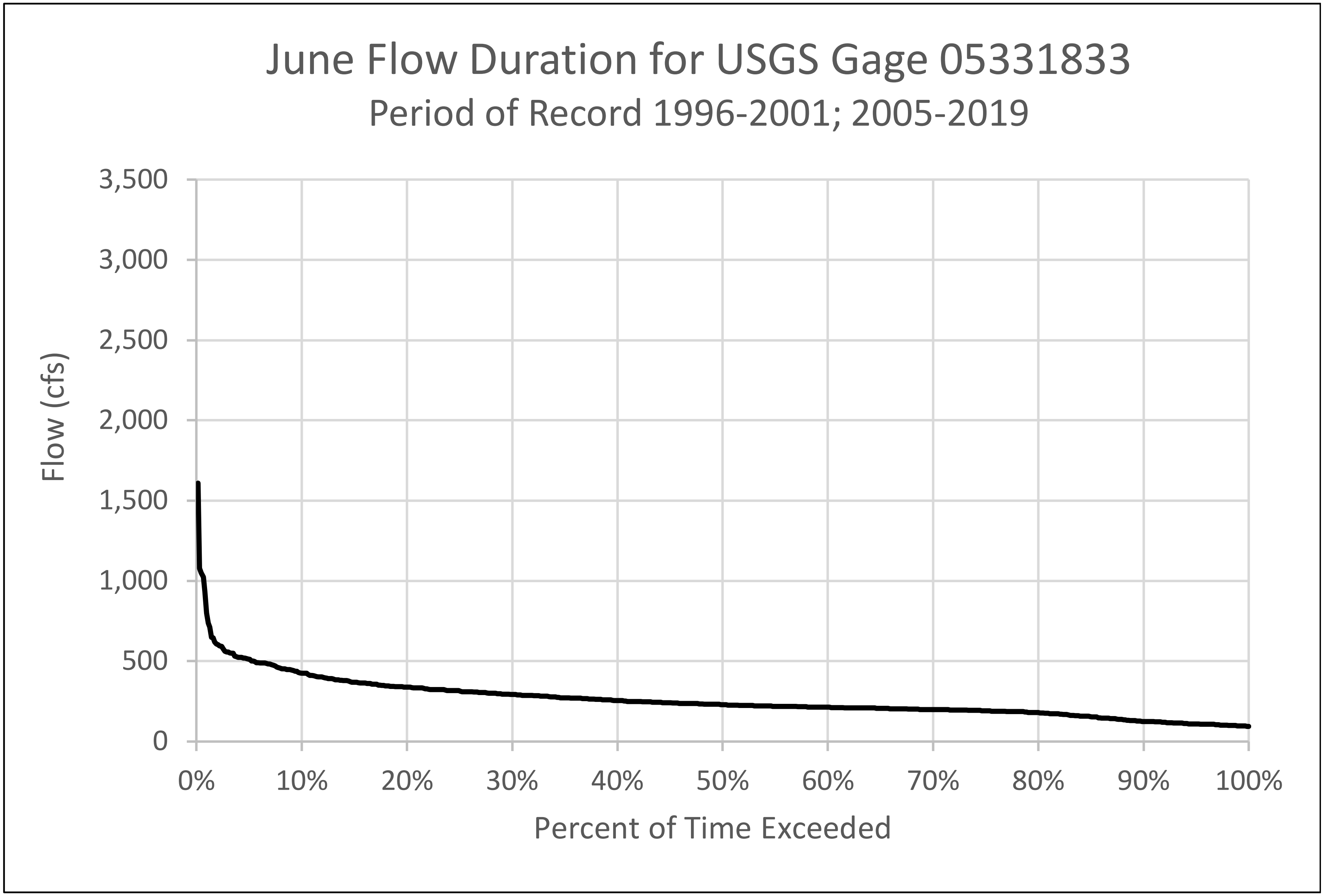

February Flow Duration for USGS Gage 05331833
Period of Record 1997-2001; 2006-2019
Flow (cfs)
3,500
3,000
2,500
2,000
1,500
1,000
500
0
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Percent of Time Exceeded

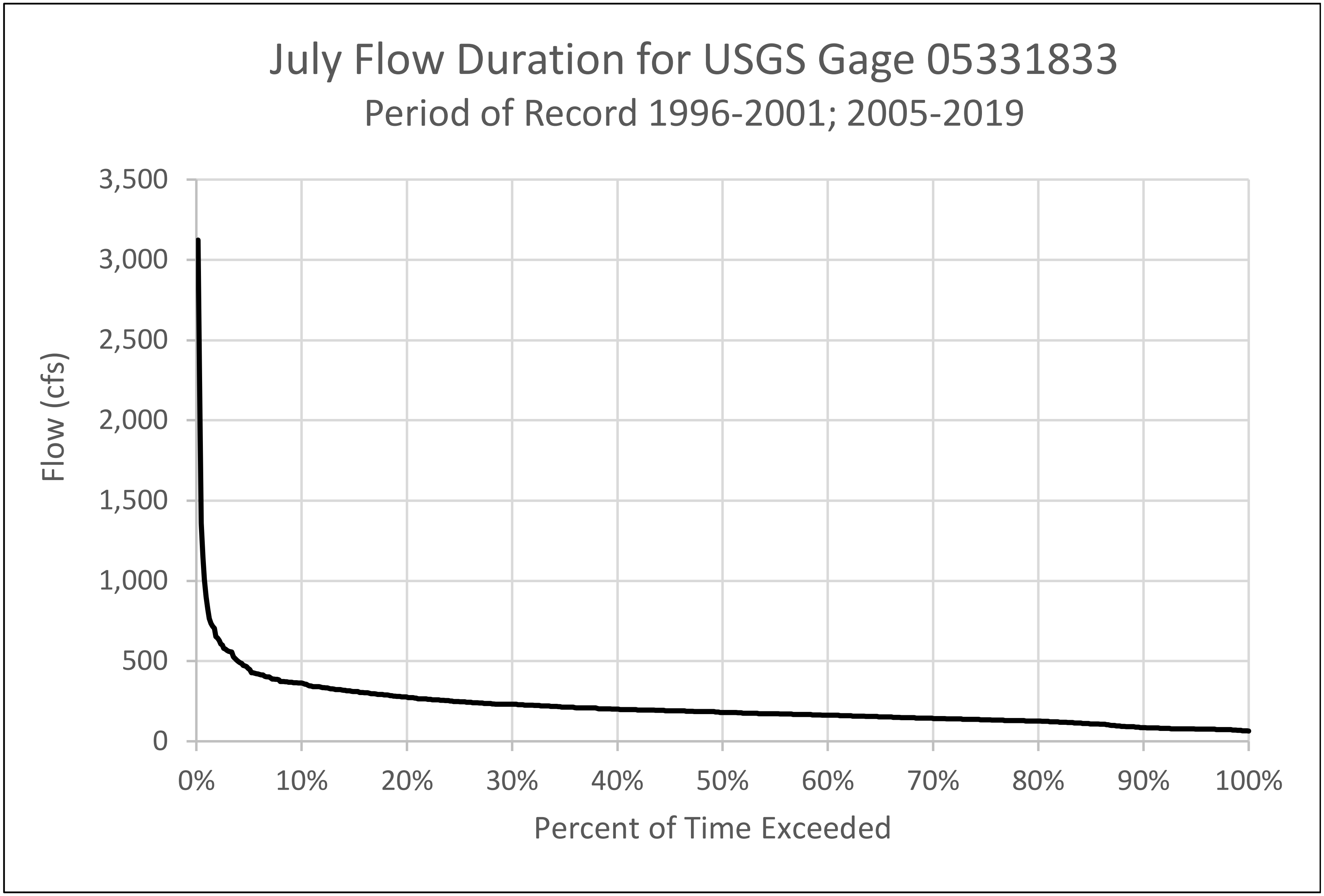

March Flow Duration for USGS Gage 05331833
Period of Record 1996-2001; 2006-2019
Flow (cfs)
3,500
3,000
2,500
2,000
1,500
1,000
500
0
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Percent of Time Exceeded

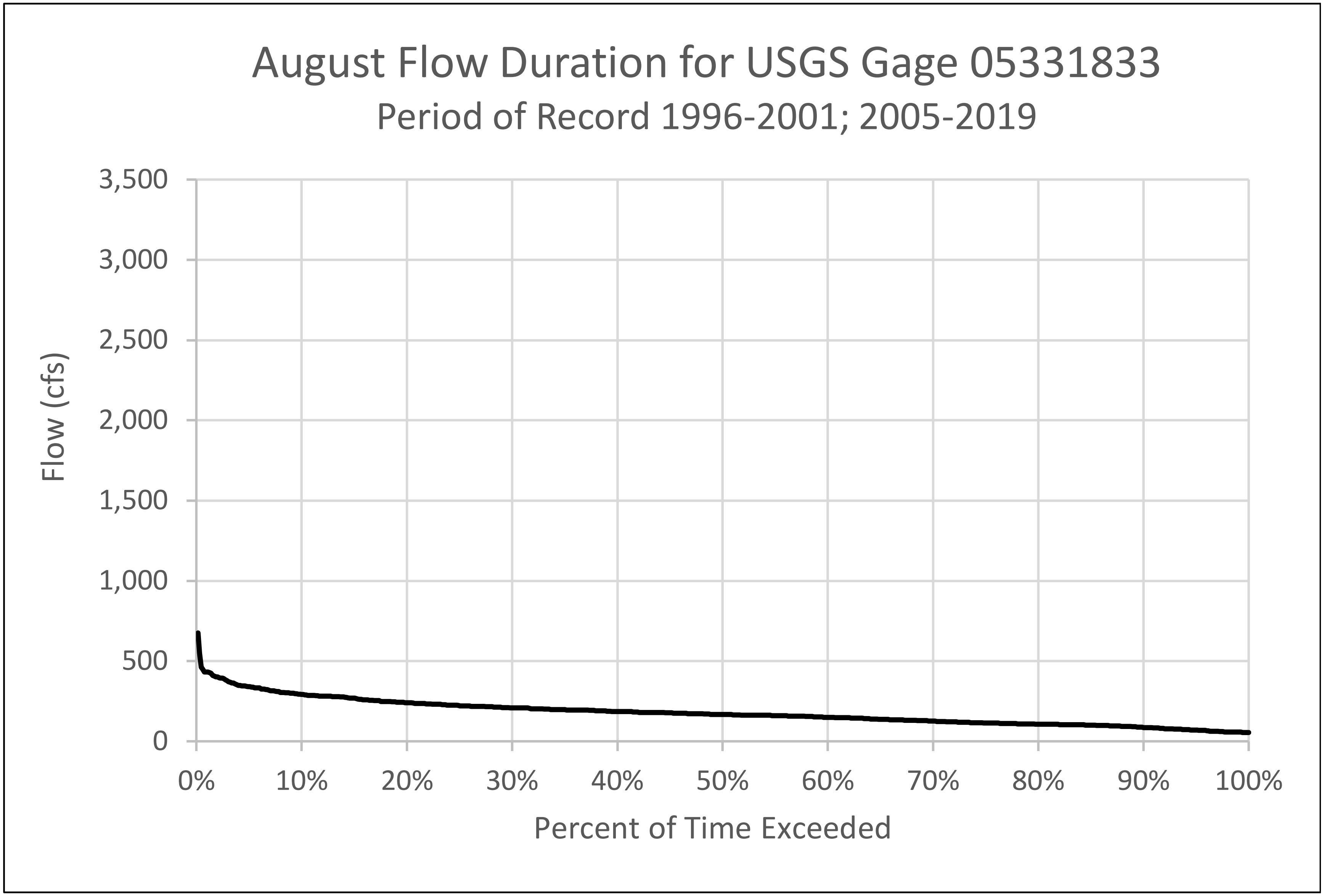


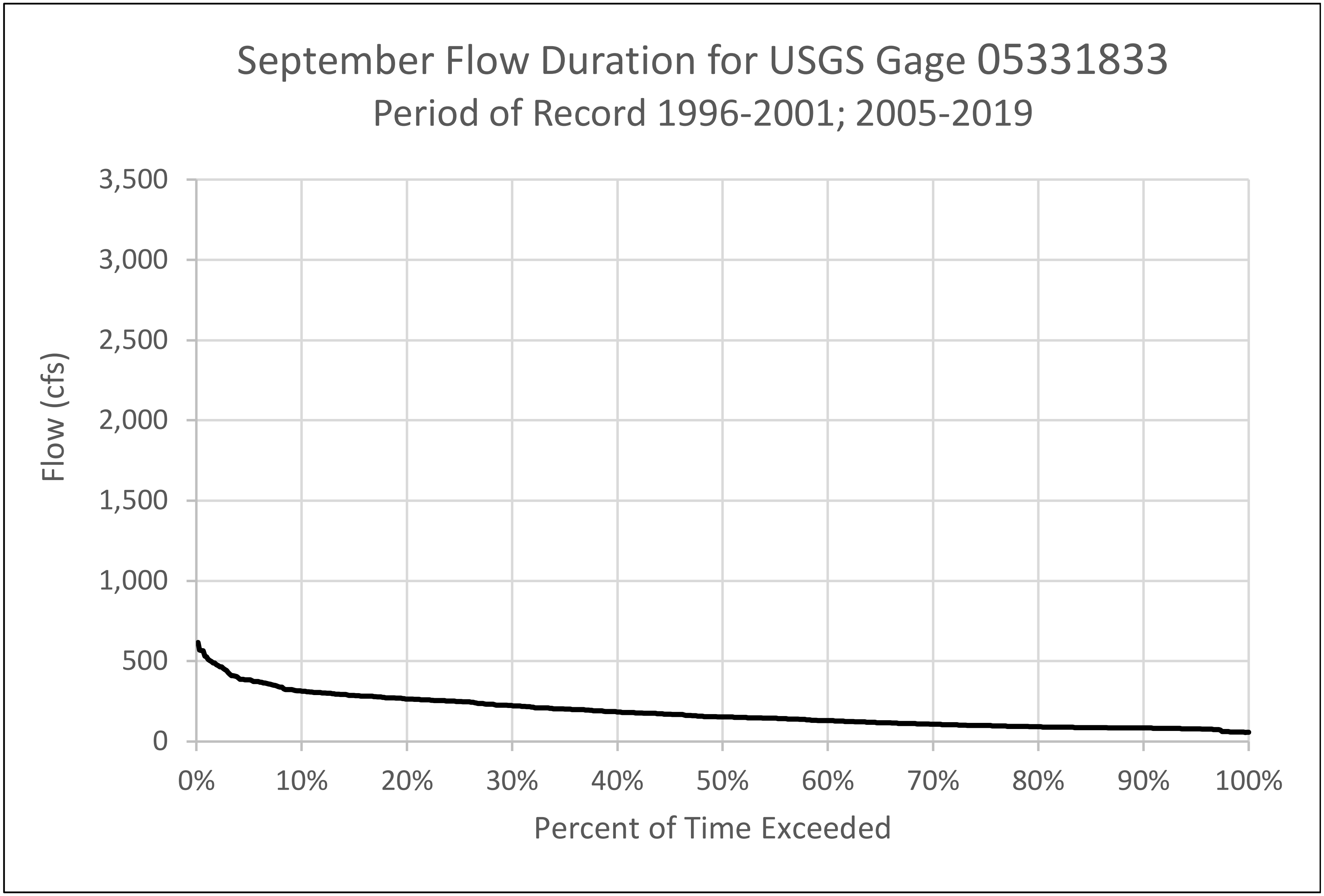
April Flow Duration for USGS Gage 05331833
Period of Record 1996-2001; 2006-2019
3,500
3,000
2,500
2,000
1,500
1,000
500
0
Flow (cfs)
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Percent of Time Exceeded


May Flow Duration for USGS Gage 05331833
Period of Record 1996-2001; 2005-2019
Flow (cfs)
3,500
3,000
2,500
2,000
1,500
1,000
500
0
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Percent of Time Exceeded

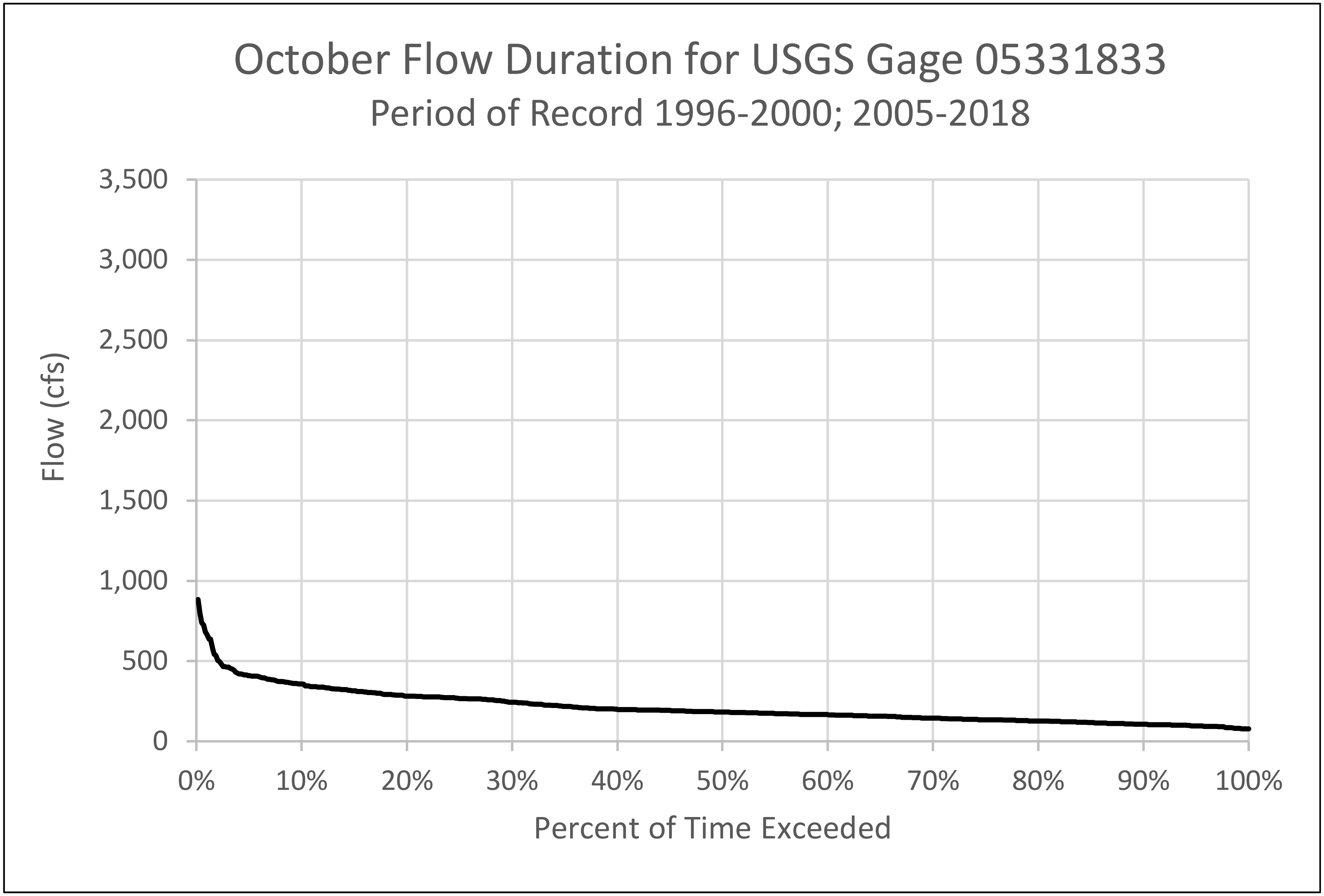

June Flow Duration for USGS Gage 05331833
Period of Record 1996-2001; 2005-2019
Flow (cfs)
3,500
3,000
2,500
2,000
1,500
1,000
500
0
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Percent of Time Exceeded

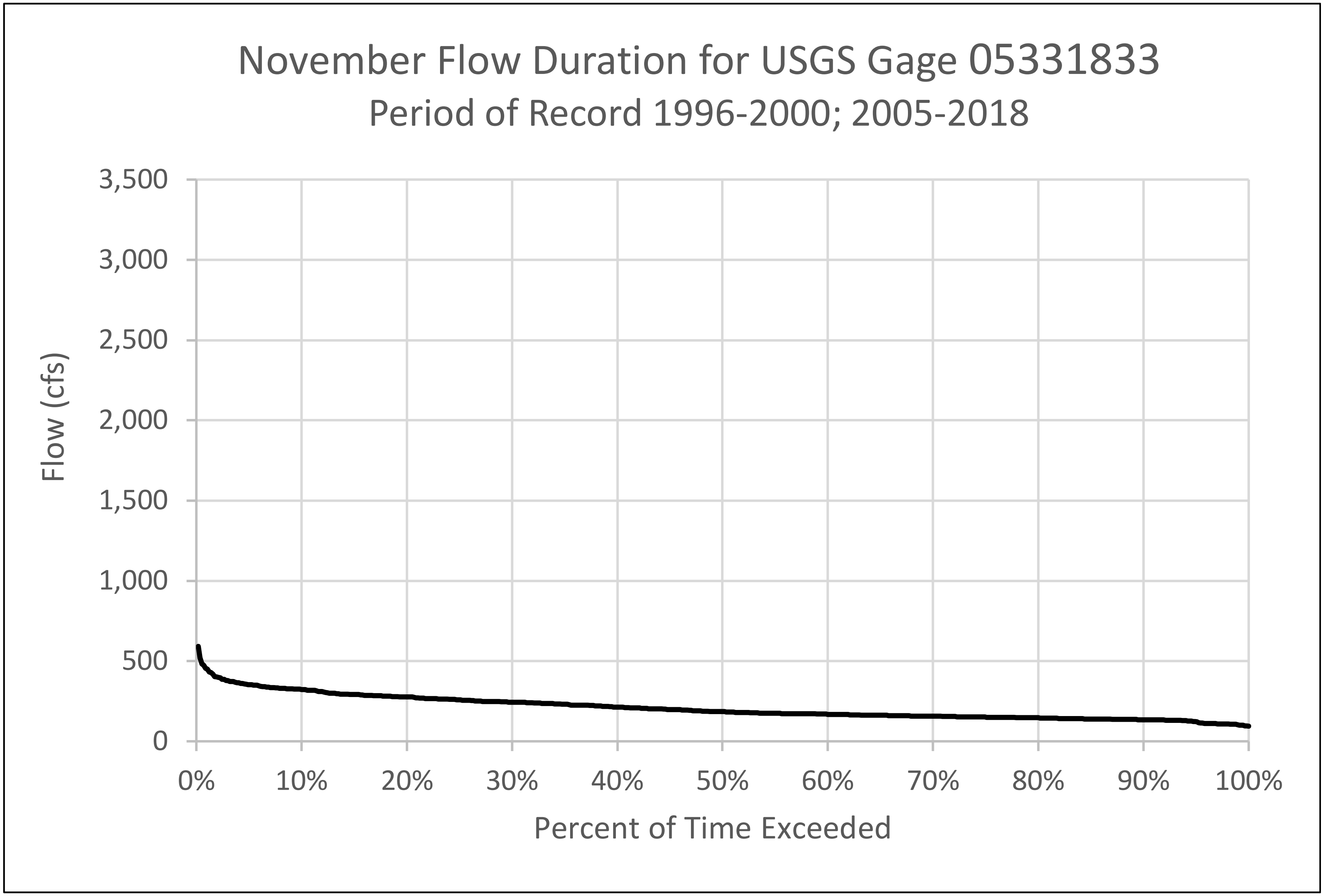

July Flow Duration for USGS Gage 05331833
Period of Record 1996-2001; 2005-2019
Flow (cfs)
3,500
3,000
2,500
2,000
1,500
1,000
500
0
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Percent of Time Exceeded

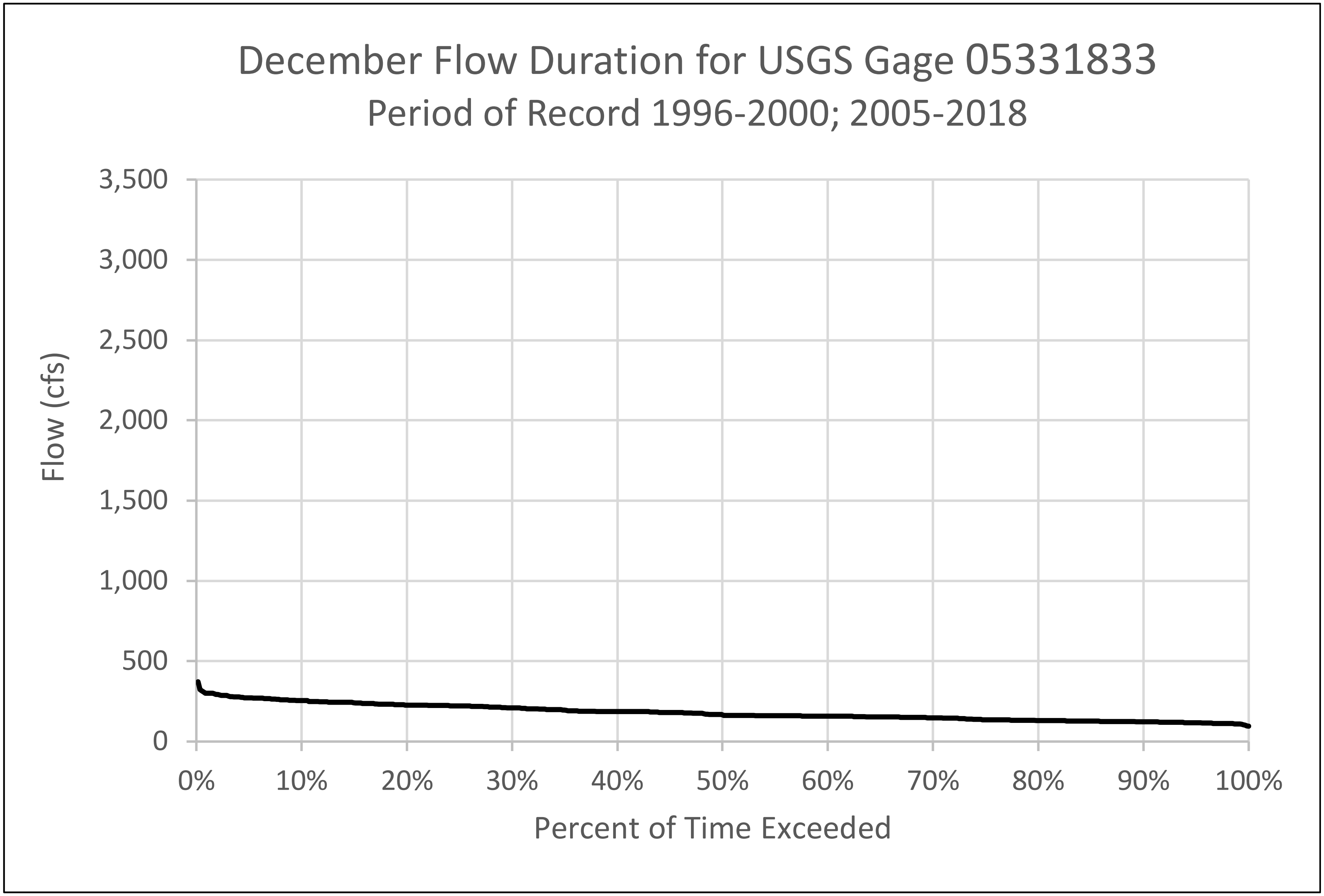

August Flow Duration for USGS Gage 05331833
Period of Record 1996-2001; 2005-2019
Flow (cfs)
3,500
3,000
2,500
2,000
1,500
1,000
500
0
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Percent of Time Exceeded



September Flow Duration for USGS Gage 05331833
Period of Record 1996-2001; 2005-2019
Flow (cfs)
3,500
3,000
2,500
2,000
1,500
1,000
500
0
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Percent of Time Exceeded


October Flow Duration for USGS Gage 05331833
Period of Record 1996-2000; 2005-2018
Flow (cfs)
3,500
3,000
2,500
2,000
1,500
1,000
500
0
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Percent of Time Exceeded

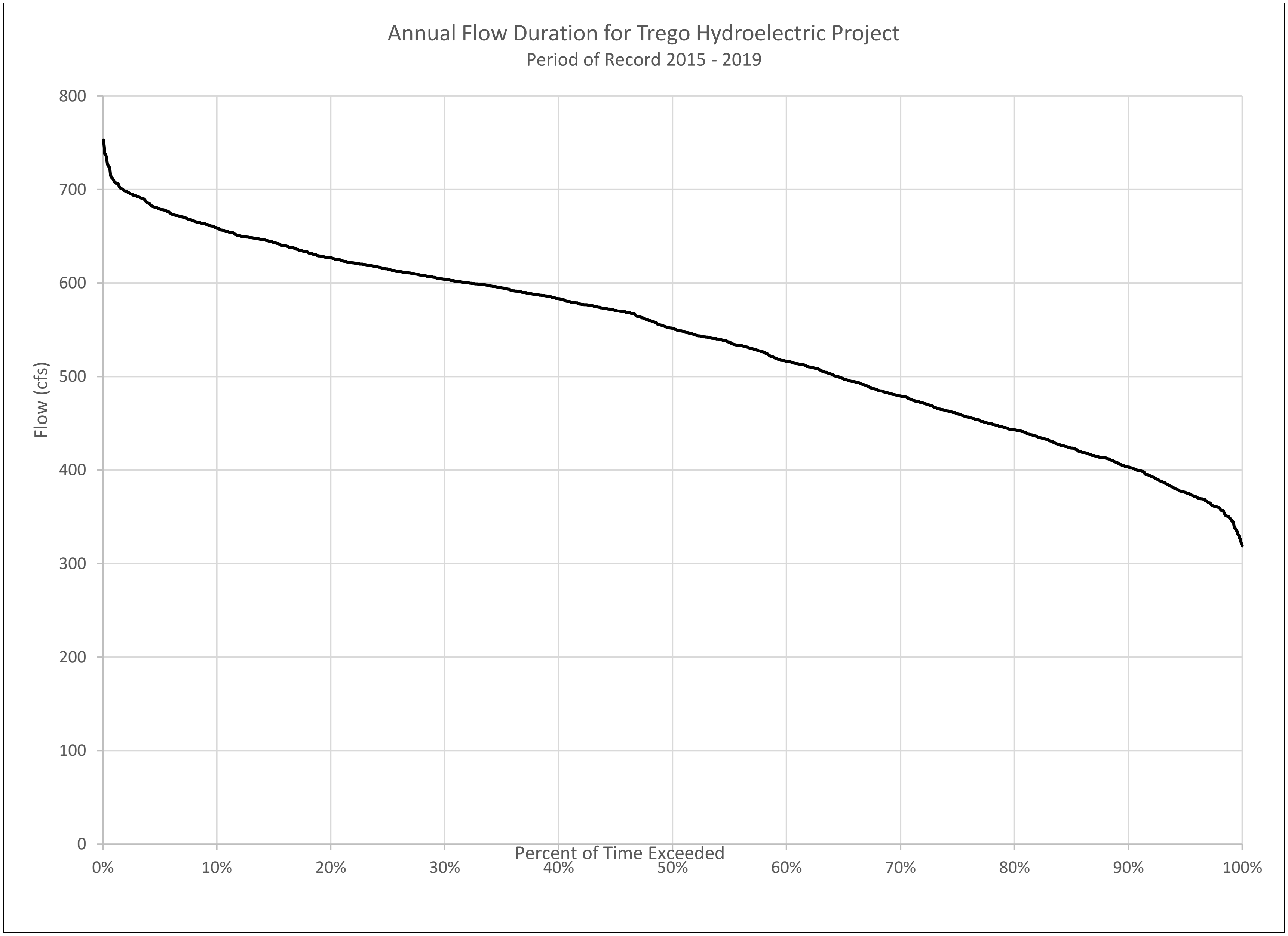

November Flow Duration for USGS Gage 05331833
Period of Record 1996-2000; 2005-2018
Flow (cfs)
3,500
3,000
2,500
2,000
1,500
1,000
500
0
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Percent of Time Exceeded


December Flow Duration for USGS Gage 05331833
Period of Record 1996-2000; 2005-2018
Flow (cfs)
3,500
3,000
2,500
2,000
1,500
1,000
500
0
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Percent of Time Exceeded

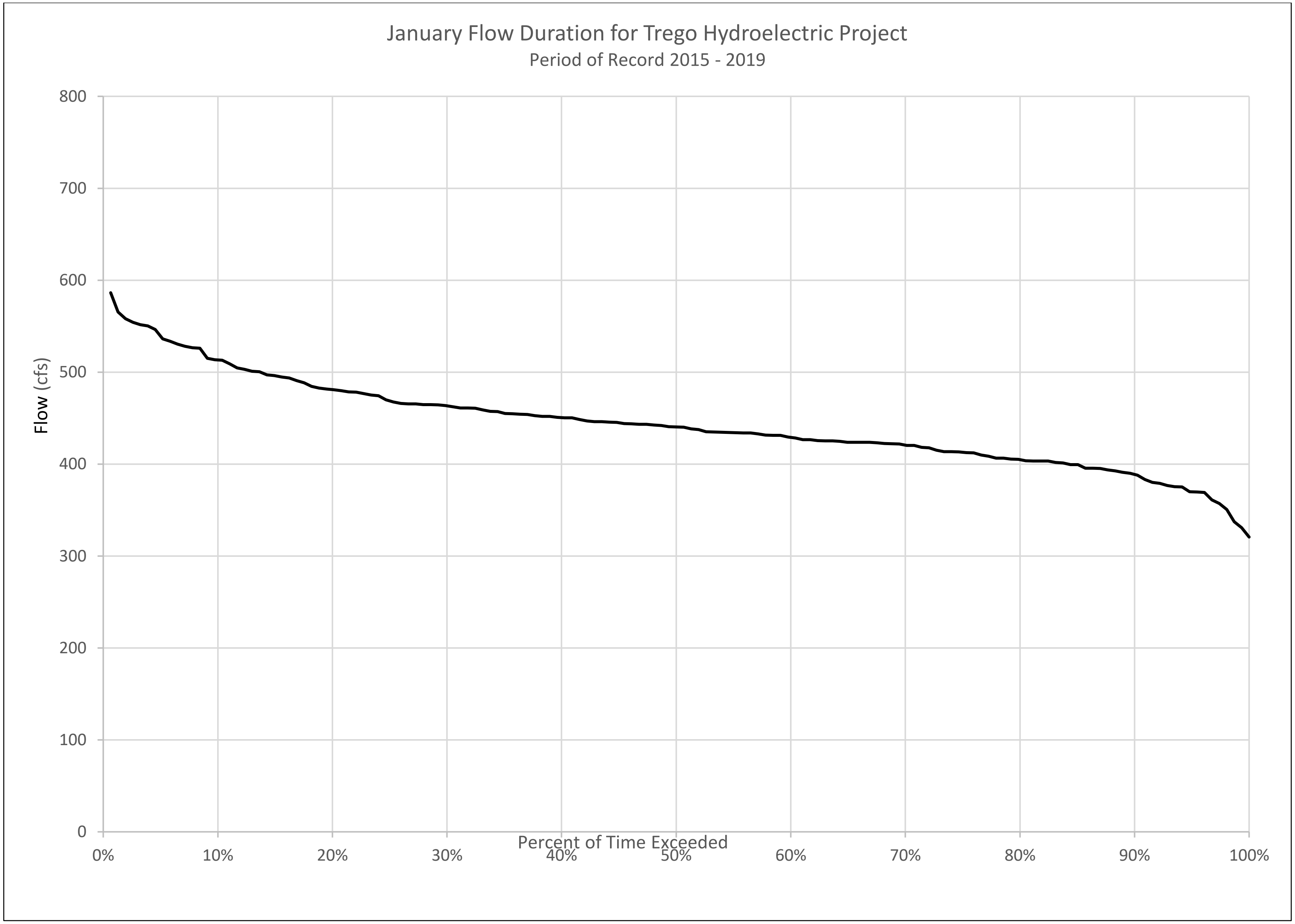
Flow Duration for USGS Gage 05331833 (Period of Record 1996-2001; 2005-2019)

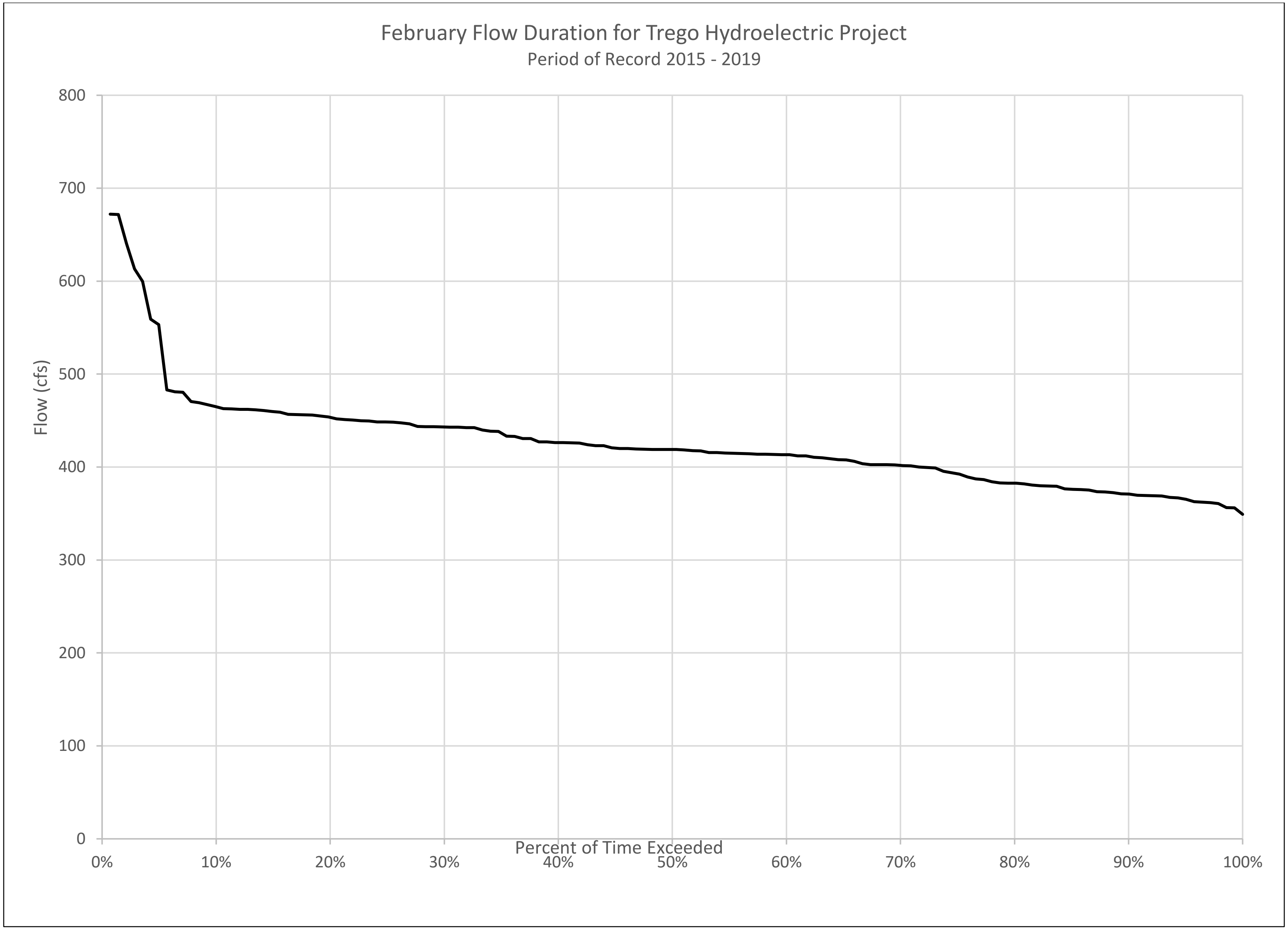
Percent of Time	January	February	March	April	May	June	July	August	September	October	November	December
95	117	104	113	151	131	109	77	71	78	97	124	116
90	122	114	121	173	155	125	86	89	83	107	135	122
85	126	120	127	181	172	156	110	101	87	118	140	127
80	130	126	146	193	190	180	126	108	90	127	147	131
75	135	130	149	203	211	191	134	115	98	136	151	136
70	141	134	154	213	224	198	144	127	107	145	157	147
65	144	141	160	224	237	206	153	137	118	157	162	154
60	147	143	167	235	250	213	163	150	129	167	168	157
55	150	147	175	252	266	219	172	161	144	175	175	160
50	154	149	180	268	281	229	181	167	153	183	185	167
45	161	154	185	302	294	240	191	178	170	193	199	181
40	163	160	196	332	317	253	201	186	183	201	213	186
35	172	165	204	363	343	273	214	198	203	219	231	195
30	178	172	214	391	374	293	231	209	224	245	245	209
25	185	175	229	420	419	317	249	224	250	266	258	222
20	193	181	242	459	477	338	276	242	265	283	278	227
15	196	193	260	495	541	369	311	270	286	314	293	242
10	209	199	281	613	598	425	363	291	314	358	324	255

APPENDIX 4.3.2.2-1 **Trego Project Flow Duration Curves and Exceedance Table**

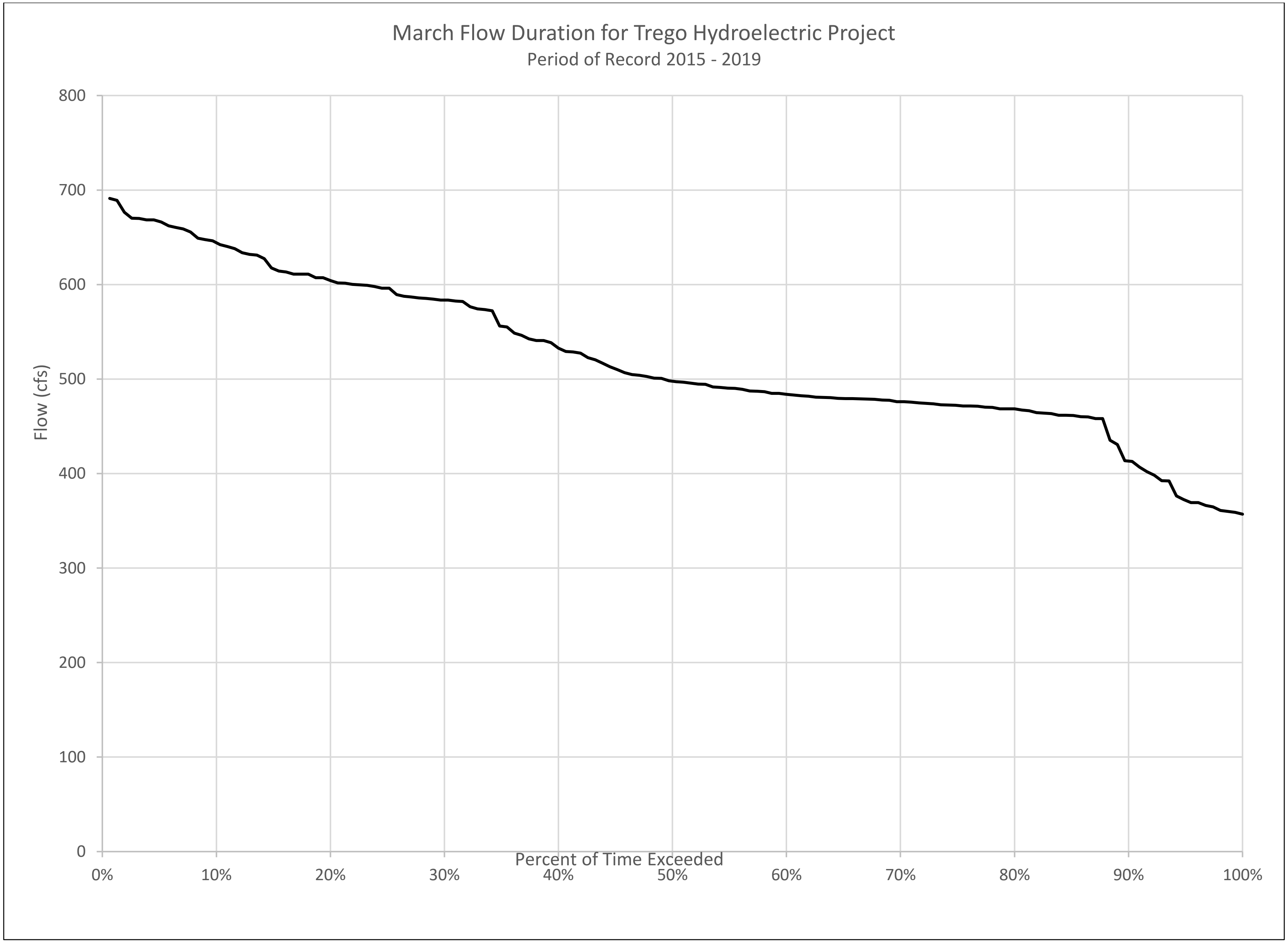


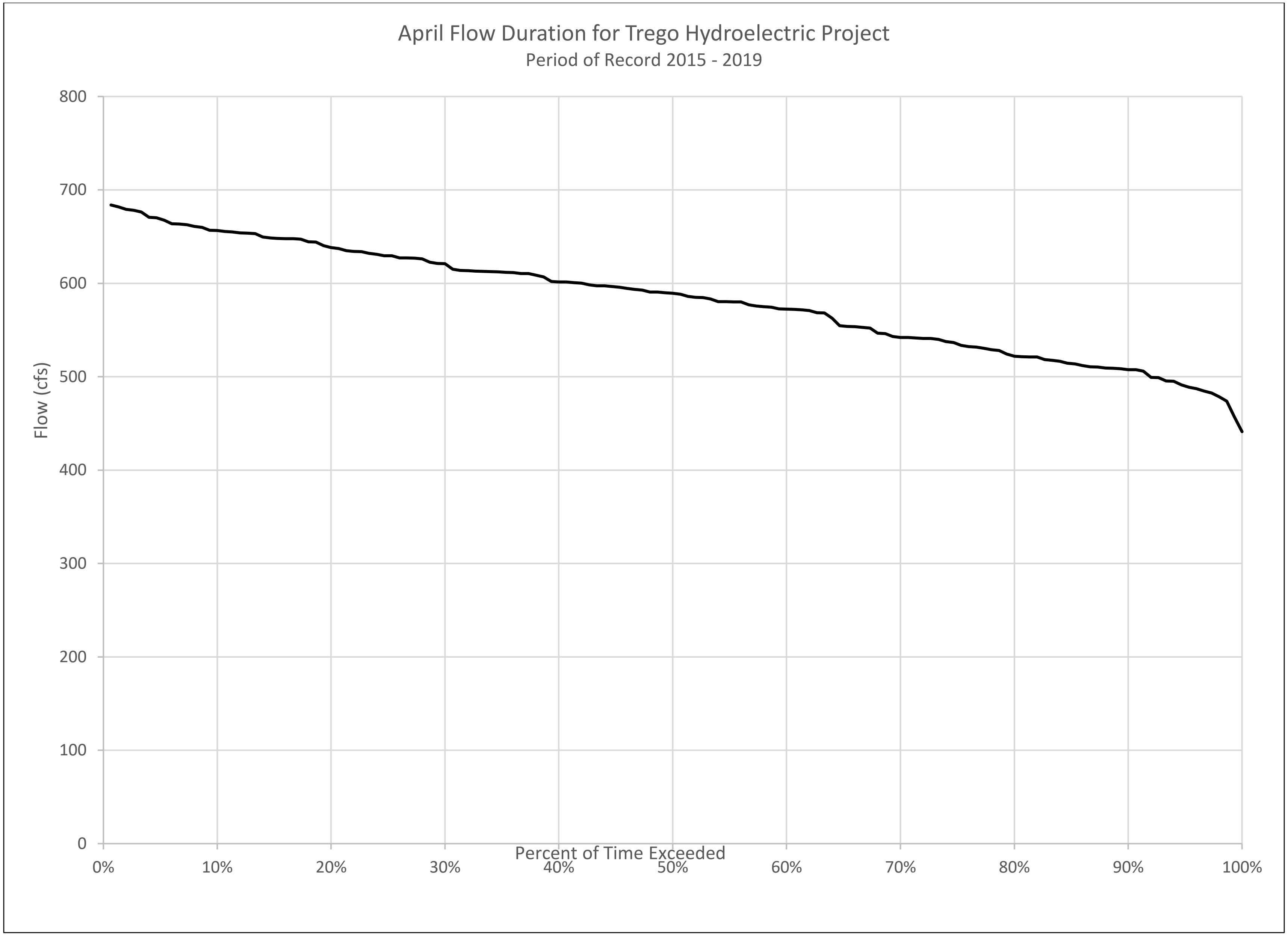
Annual Flow Duration for Trego Hydroelectric Project
Period of Record 2015 - 2019
Flow (cfs)
800
700
600
500
400
300
200
100
0
Percent of Time Exceeded
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%

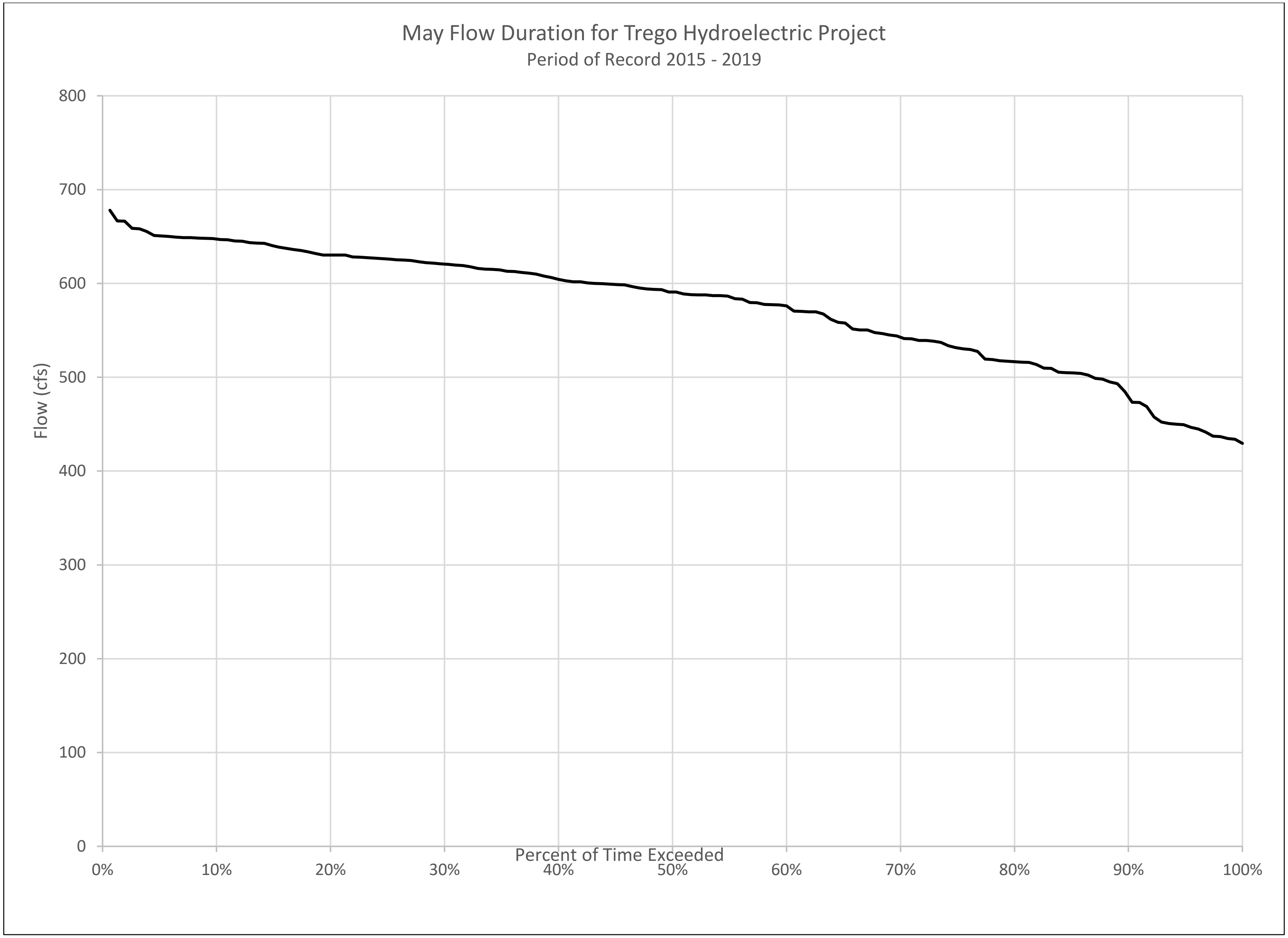

January Flow Duration for Trego Hydroelectric Project
Period of Record 2015 - 2019
Flow (cfs)
800
700
600
500
400
300
200
100
0
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Percent of Time Exceeded

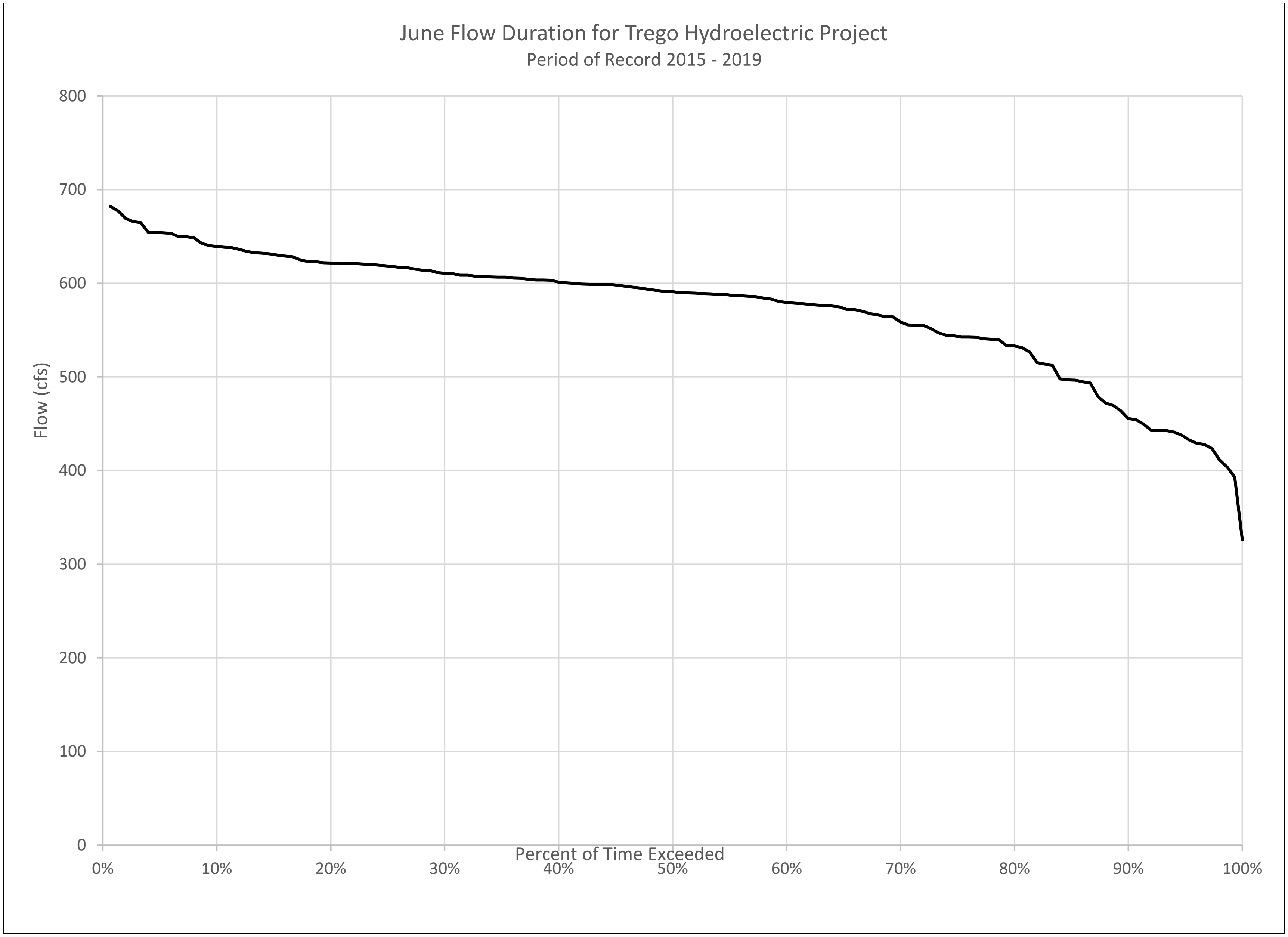


February Flow Duration for Trego Hydroelectric Project
Period of Record 2015 - 2019
Flow (cfs)
800
700
600
500
400
300
200
100
0
Percent of Time Exceeded
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%

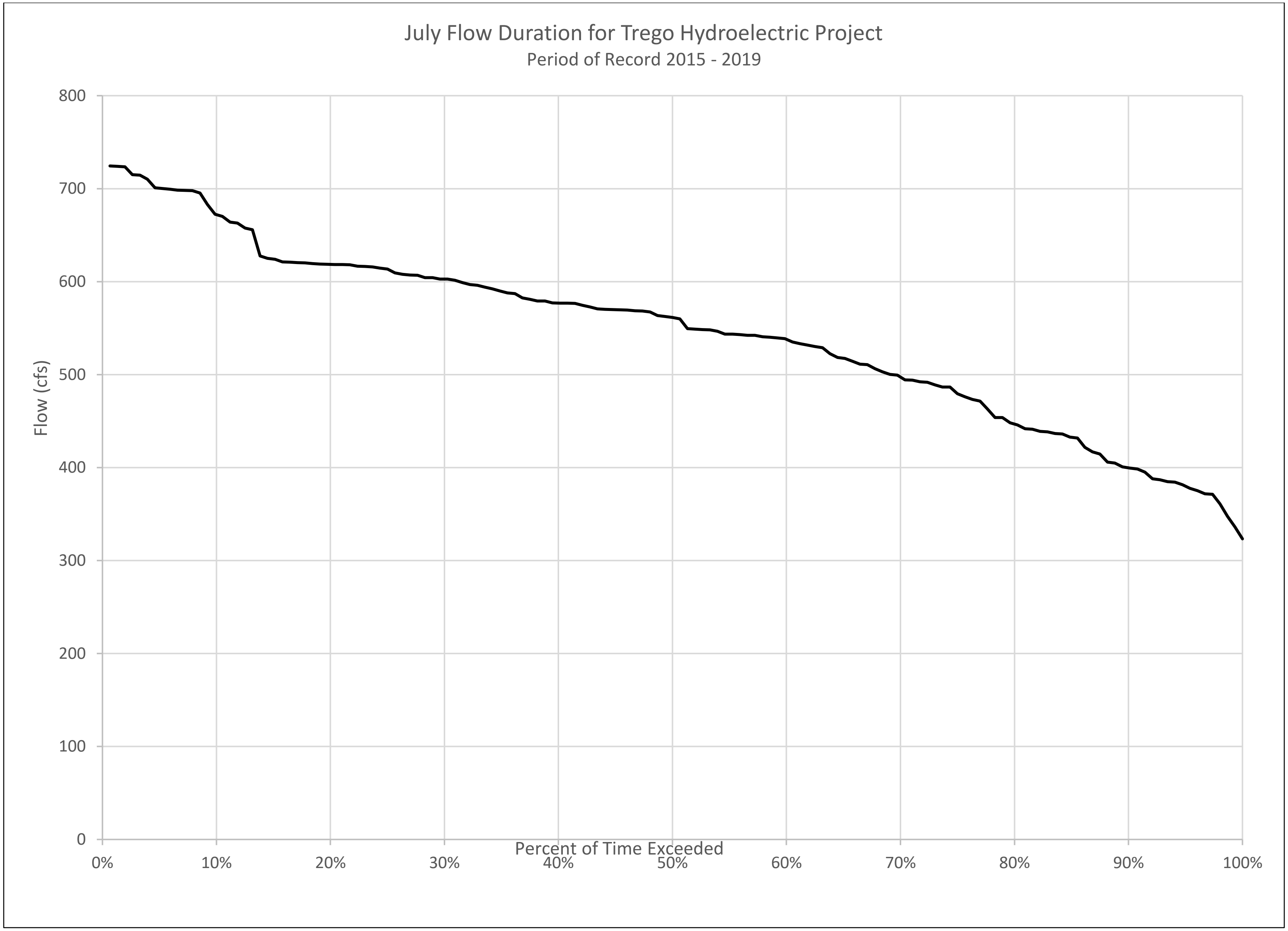

March Flow Duration for Trego Hydroelectric Project
Period of Record 2015 - 2019
Flow (cfs)
800
700
600
500
400
300
200
100
0
Percent of Time Exceeded
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%

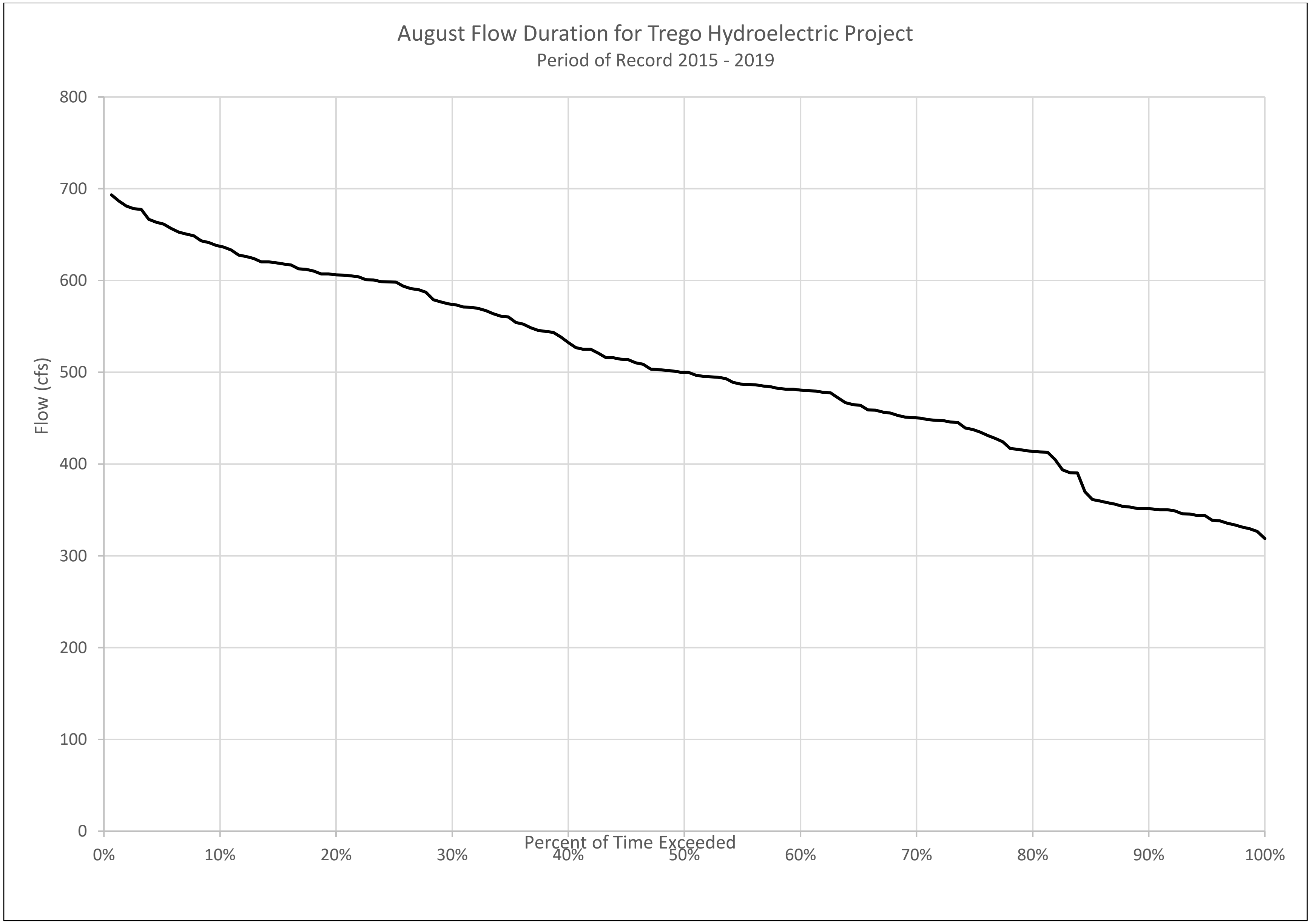

April Flow Duration for Trego Hydroelectric Project
Period of Record 2015 - 2019
800
700
600
500
400
300
200
100
0
Flow (cfs)
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Percent of Time Exceeded

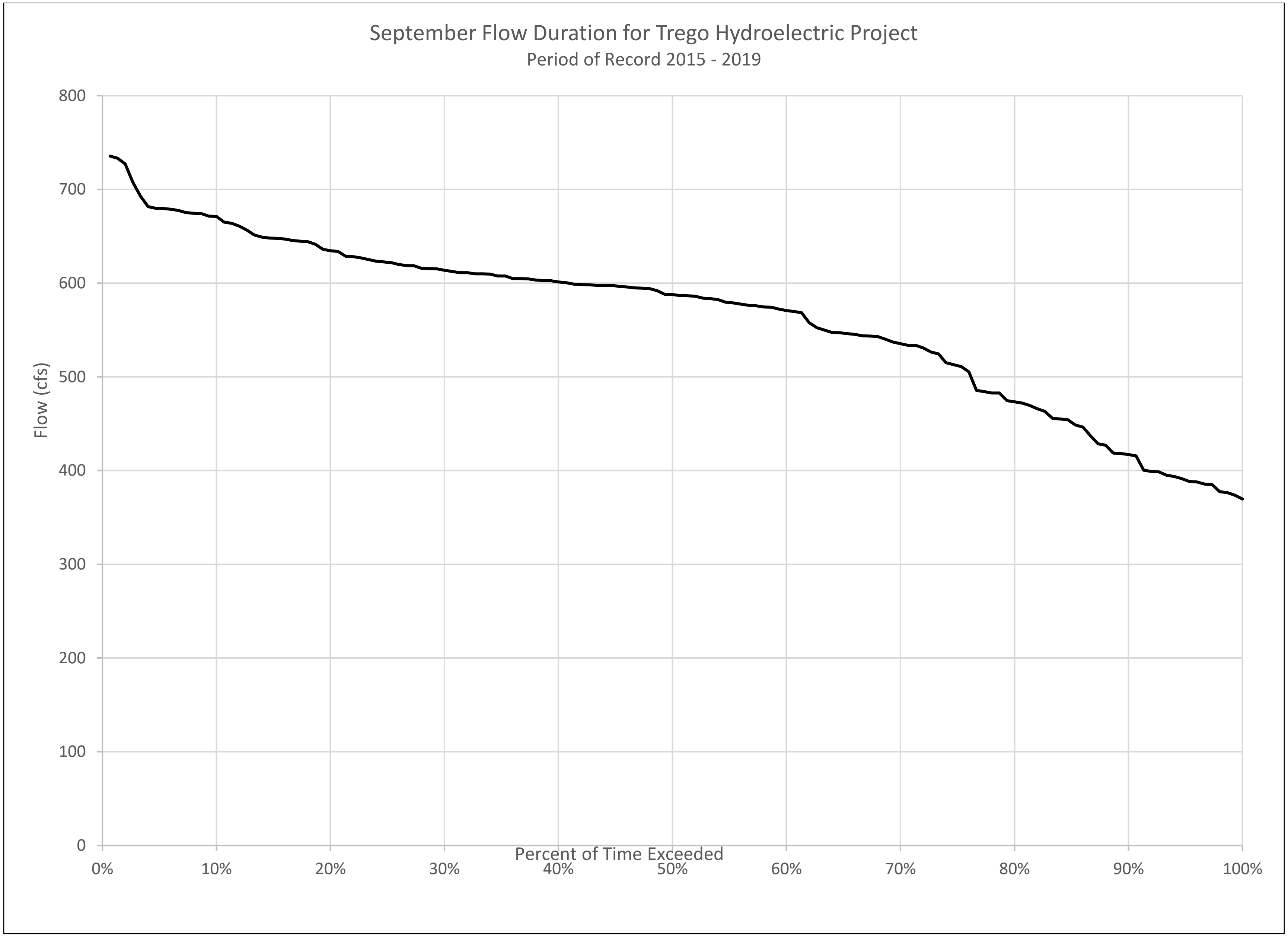

May Flow Duration for Trego Hydroelectric Project
Period of Record 2015 - 2019
Flow (cfs)
800
700
600
500
400
300
200
100
0
Percent of Time Exceeded
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%



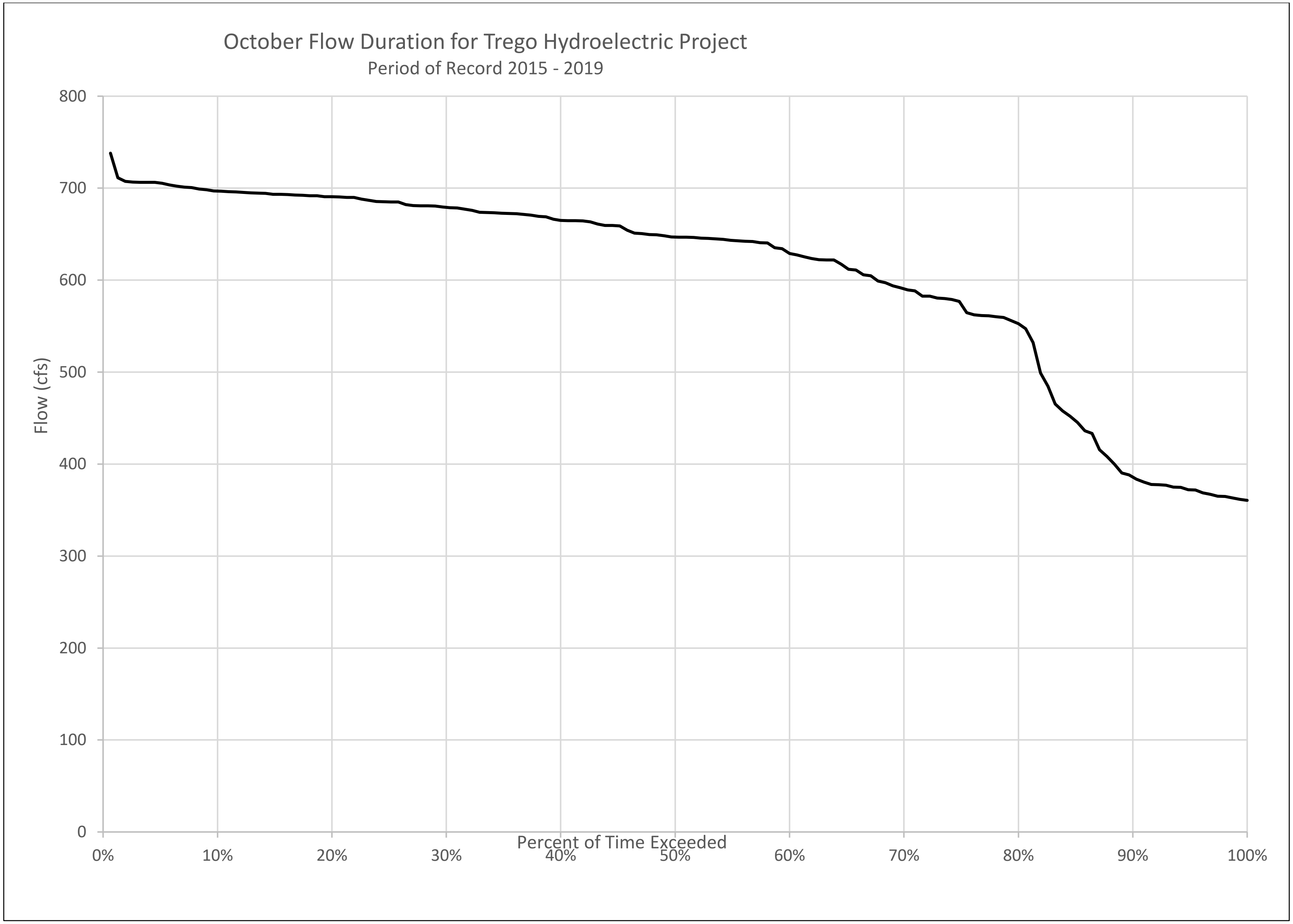
June Flow Duration for Trego Hydroelectric Project
Period of Record 2015 - 2019
Flow (cfs)
800
700
600
500
400
300
200
100
0
Percent of Time Exceeded
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%

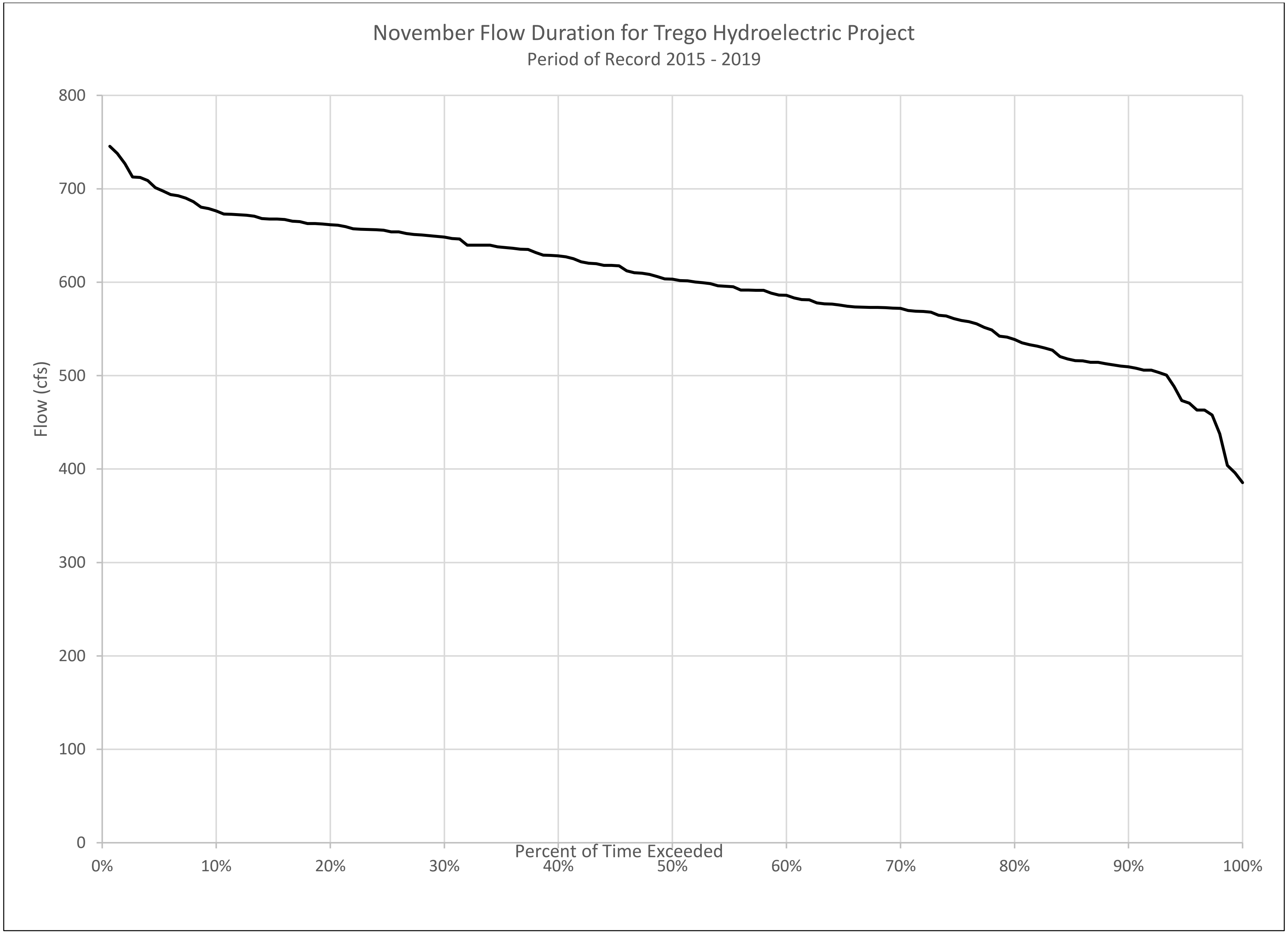

July Flow Duration for Trego Hydroelectric Project
Period of Record 2015 - 2019
Flow (cfs)
800
700
600
500
400
300
200
100
0
Percent of Time Exceeded
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%


August Flow Duration for Trego Hydroelectric Project
Period of Record 2015 - 2019
Flow (cfs)
800
700
600
500
400
300
200
100
0
Percent of Time Exceeded
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%

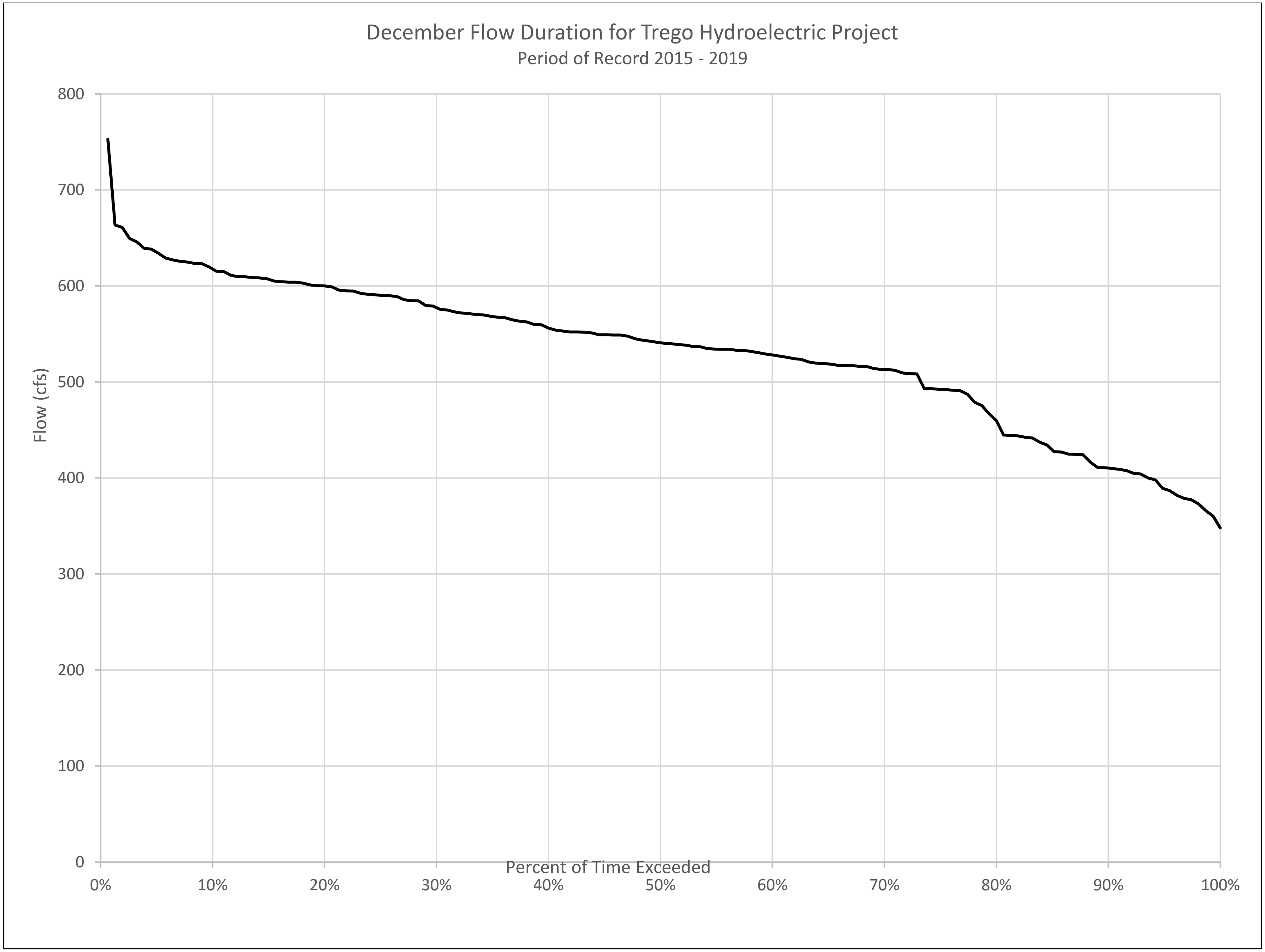


September Flow Duration for Trego Hydroelectric Project
Period of Record 2015 - 2019
Flow (cfs)
800
700
600
500
400
300
200
100
0
Percent of Time Exceeded
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%


October Flow Duration for Trego Hydroelectric Project
Period of Record 2015 - 2019
Flow (cfs)
800
700
600
500
400
300
200
100
0
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Percent of Time Exceeded



November Flow Duration for Trego Hydroelectric Project
Period of Record 2015 - 2019
Flow (cfs)
800
700
600
500
400
300
200
100
0
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%
Percent of Time Exceeded

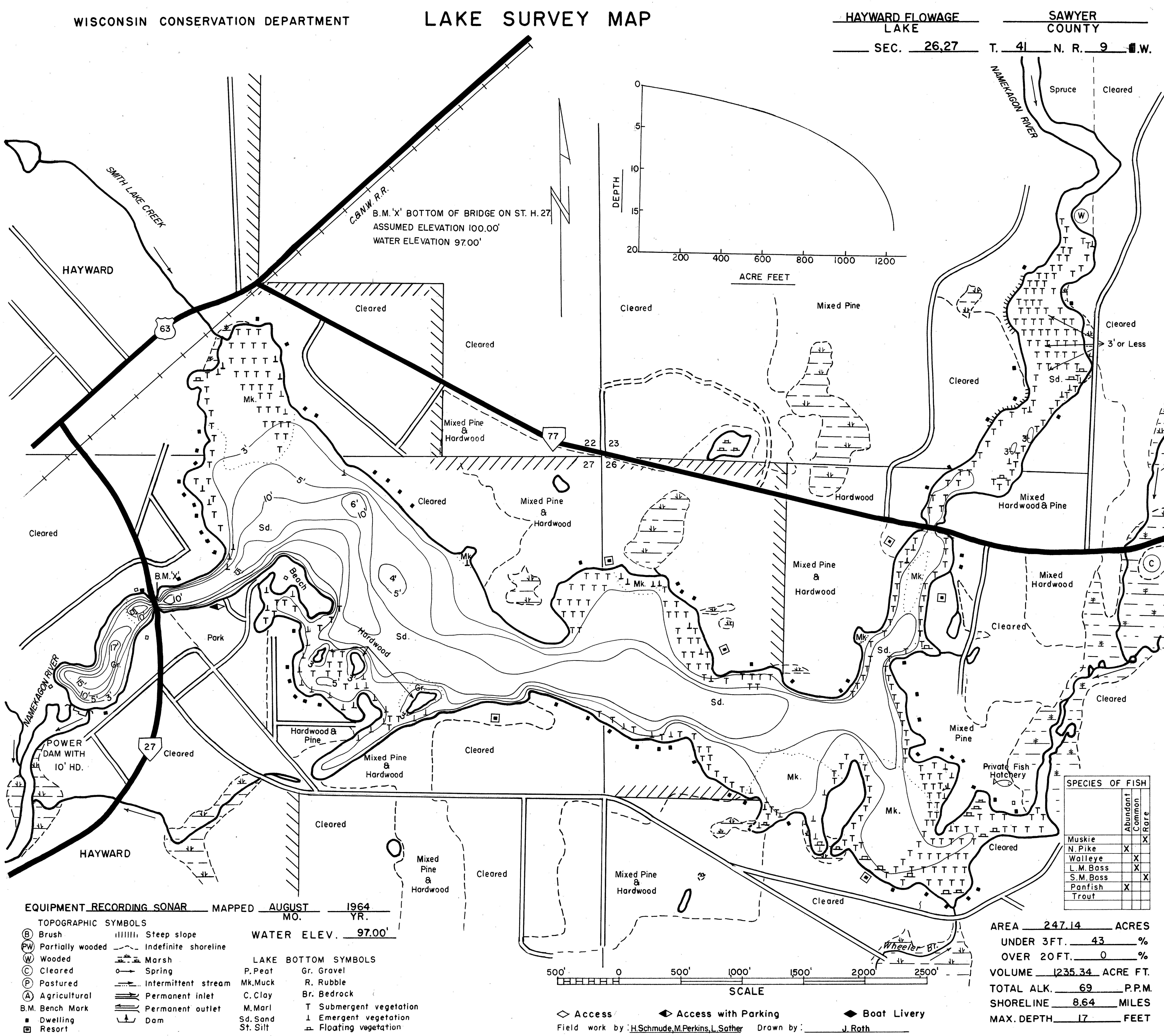


December Flow Duration for Trego Hydroelectric Project
Period of Record 2015 - 2019
Flow (cfs)
800
700
600
500
400
300
200
100
0
Percent of Time Exceeded
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%

Flow Duration for Trego Hydroelectric Project (Period of Record 2015 - 2019)

Percent of Time	January	February	March	April	May	June	July	August	September	October	November	December
95	370	367	372	491	449	438	381	344	391	372	473	389
90	390	371	413	508	485	455	401	352	417	388	510	411
85	399	377	462	515	505	497	433	370	454	452	518	434
80	405	383	469	522	516	533	448	414	473	553	539	460
75	413	394	472	537	532	544	479	438	513	577	561	492
70	422	402	476	542	544	559	499	451	535	592	572	513
65	424	408	479	555	559	575	518	465	547	617	576	519
60	429	413	484	572	576	579	539	481	571	629	586	528
55	434	415	490	580	586	588	544	487	580	643	596	534
50	441	419	498	589	591	591	562	500	588	647	603	541
45	445	421	513	597	599	599	570	514	598	659	618	549
40	451	426	533	601	604	601	577	532	601	665	628	556
35	457	438	556	612	614	607	590	560	608	673	638	568
30	464	443	584	621	621	611	603	575	614	679	648	579
25	470	448	596	630	626	619	613	599	623	685	656	591
20	482	454	604	638	630	622	619	606	635	691	662	600
15	496	460	618	649	640	631	625	619	648	693	668	608
10	513	465	646	657	648	639	672	638	671	697	676	620

APPENDIX 4.3.6.1-1 **Hayward Project Bathymetric Map**


WISCONSIN CONSERVATION DEPARTMENT
LAKE SURVEY MAP
HAYWARD FLOWAGE
LAKE
SAWYER
COUNTY
SEC. 26,27 T. 41 N. R. 9 W.
DEPTH
0
5
10
15
20
200
400
600
800
1000
1200
ACRE FEET
B.M. 'X' BOTTOM OF BRIDGE ON ST. H. 27
ASSUMED ELEVATION 100.00'
WATER ELEVATION 97.00'
C.&N.W. R.R.
SMITH LAKE CREEK
HAYWARD
NAMEKAGON RIVER
Spruce
Cleared
Mixed Pine
Mixed Pine & Hardwood
Hardwood
Mixed Hardwood & Pine
Mixed Hardwood
3' or Less
Sd.
Mk.
Gr.
Beach
Park
Hardwood & Pine
Mixed Pine & Hardwood
B.M. 'X'
POWER DAM WITH 10' HD.
Private Fish Hatchery
Mixed Pine
Wheeler Br.
63
77
27
22
23
27
26
SPECIES OF FISH
Abundant
Common
Rare
Muskie X
N. Pike X
Walleye X
L.M. Bass X
S.M. Bass X
Panfish X
Trout
EQUIPMENT RECORDING SONAR
MAPPED AUGUST 1964
MO. YR.
WATER ELEV. 97.00'
TOPOGRAPHIC SYMBOLS
(B) Brush
(PW) Partially wooded
(W) Wooded
(C) Cleared
(P) Pastured
(A) Agricultural
B.M. Bench Mark
Dwelling
Resort
Steep slope
Indefinite shoreline
Marsh
Spring
Intermittent stream
Permanent inlet
Permanent outlet
Dam
LAKE BOTTOM SYMBOLS
P. Peat
Mk. Muck
C. Clay
M. Marl
Sd. Sand
St. Silt
Gr. Gravel
R. Rubble
Br. Bedrock
T Submergent vegetation
⊥ Emergent vegetation
Floating vegetation
500' 0 500' 1000' 1500' 2000' 2500'
SCALE
Access
Access with Parking
Boat Livery
Field work by: H.Schmude, M.Perkins, L.Sather
Drawn by: J. Roth
AREA 247.14 ACRES
UNDER 3 FT. 43 %
OVER 20 FT. 0 %
VOLUME 1235.34 ACRE FT.
TOTAL ALK. 69 P.P.M.
SHORELINE 8.64 MILES
MAX. DEPTH 17 FEET

Source: Wisconsin Department of Natural Resources 608-266-2621
Hayward Flowage – Sawyer County, Wisconsin DNR Lake Map
Date – Aug 1964 - Historical Lake Map - Not for Navigation
A Public Document - Please Identify the Source when using it.

APPENDIX 4.3.6.2-1 Trego Project Bathymetric Map

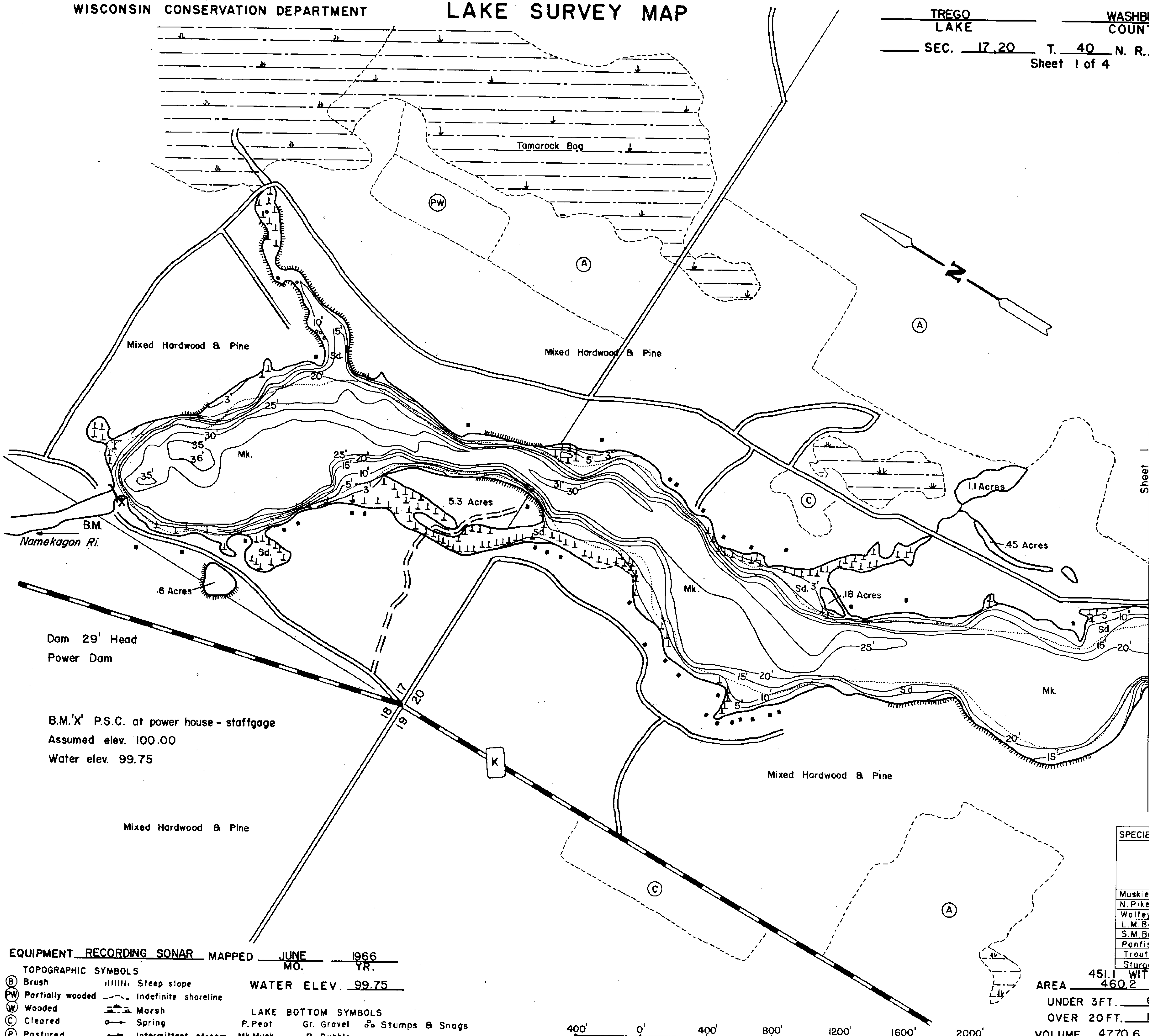
WISCONSIN CONSERVATION DEPARTMENT

LAKE SURVEY MAP

TREGO LAKE — WASHBURN COUNTY

SEC. 17,20 T. 40 N. R. 12 E.W.

Sheet 1 of 4



SPECIES OF FISH	Abundant	Common	Rare
Muskie			X
N. Pike			X
Walleye		X	
L.M. Bass			X
S.M. Bass			X
Panfish	X		
Trout			
Sturgeon			X

AREA 460.2 ACRES (451.1 WITHOUT IS.)
UNDER 3 FT. 6.15 %
OVER 20 FT. 14.0 %
VOLUME 4770.6 ACRE FT.
TOTAL ALK. 73 P.P.M.
SHORELINE 16.9 MILES
MAX. DEPTH 36 FEET

EQUIPMENT RECORDING SONAR MAPPED JUNE (MO.) 1966 (YR.)

WATER ELEV. 99.75

TOPOGRAPHIC SYMBOLS
- (B) Brush
- (PW) Partially wooded
- (W) Wooded
- (C) Cleared
- (P) Pastured
- (A) Agricultural
- B.M. Bench Mark
- Dwelling
- Resort
- Steep slope
- Indefinite shoreline
- Marsh
- Spring
- Intermittent stream
- Permanent inlet
- Permanent outlet
- Dam

LAKE BOTTOM SYMBOLS
- P. Peat
- Mk. Muck
- C. Clay
- M. Marl
- Sd. Sand
- St. Silt
- Gr. Gravel
- R. Rubble
- Br. Bedrock
- Stumps & Snags
- T Submergent vegetation
- ⊥ Emergent vegetation
- Floating vegetation

◇ Access ◆ Access with Parking ◆ Boat Livery

Field work by C. Busch, G. Winter, L. Sather Drawn by: C. Holt

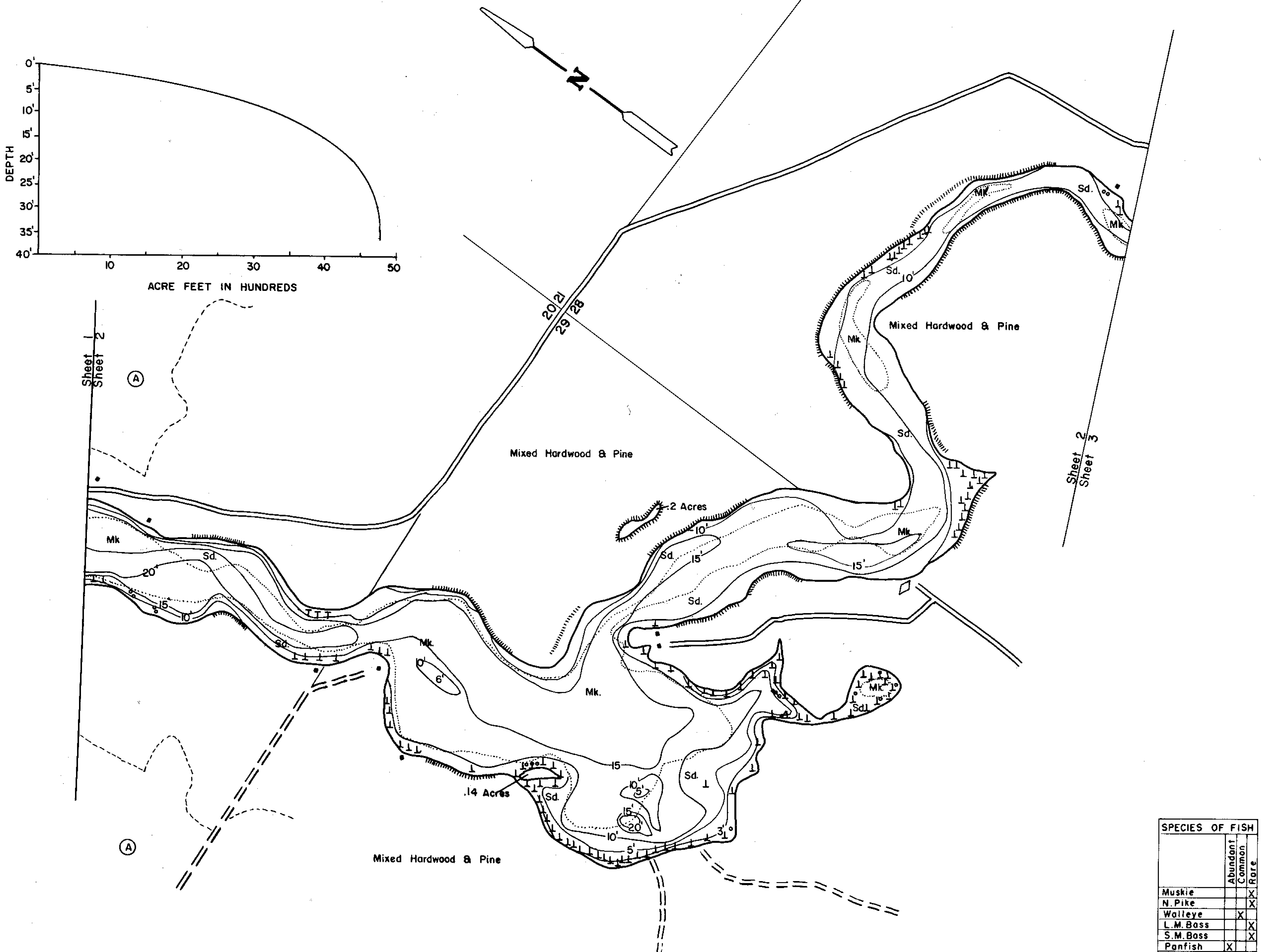
WISCONSIN CONSERVATION DEPARTMENT

LAKE SURVEY MAP

TREGO LAKE — WASHBURN COUNTY

SEC. 20,28,29 T. 40 N. R. 12 ~~E.~~W.

Sheet 2 of 4



SPECIES OF FISH	Abundant	Common	Rare
Muskie			X
N. Pike			X
Walleye		X	
L.M. Bass			X
S.M. Bass			X
Panfish	X		
Trout			
Sturgeon			X

AREA 460.2 ACRES (451.1 WITHOUT IS.)

UNDER 3 FT. 6.15 %

OVER 20 FT. 14.0 %

VOLUME 4770.6 ACRE FT.

TOTAL ALK. 73 P.P.M.

SHORELINE 16.9 MILES

MAX. DEPTH 36 FEET

EQUIPMENT RECORDING SONAR MAPPED JUNE (MO.) 1966 (YR.)

WATER ELEV. 99.75

TOPOGRAPHIC SYMBOLS

- (B) Brush
- (PW) Partially wooded
- (W) Wooded
- (C) Cleared
- (P) Pastured
- (A) Agricultural
- B.M. Bench Mark
- ▪ Dwelling
- Resort
- Steep slope
- Indefinite shoreline
- Marsh
- Spring
- Intermittent stream
- Permanent inlet
- Permanent outlet
- Dam

LAKE BOTTOM SYMBOLS

- P. Peat
- Mk. Muck
- C. Clay
- M. Marl
- Sd. Sand
- St. Silt
- Gr. Gravel
- R. Rubble
- Br. Bedrock
- Stumps & Snags
- T Submergent vegetation
- ⊥ Emergent vegetation
- Floating vegetation

SCALE: 400' 0' 400' 800' 1200' 1600' 2000'

◇ Access ◆ Access with Parking ◆ Boat Livery

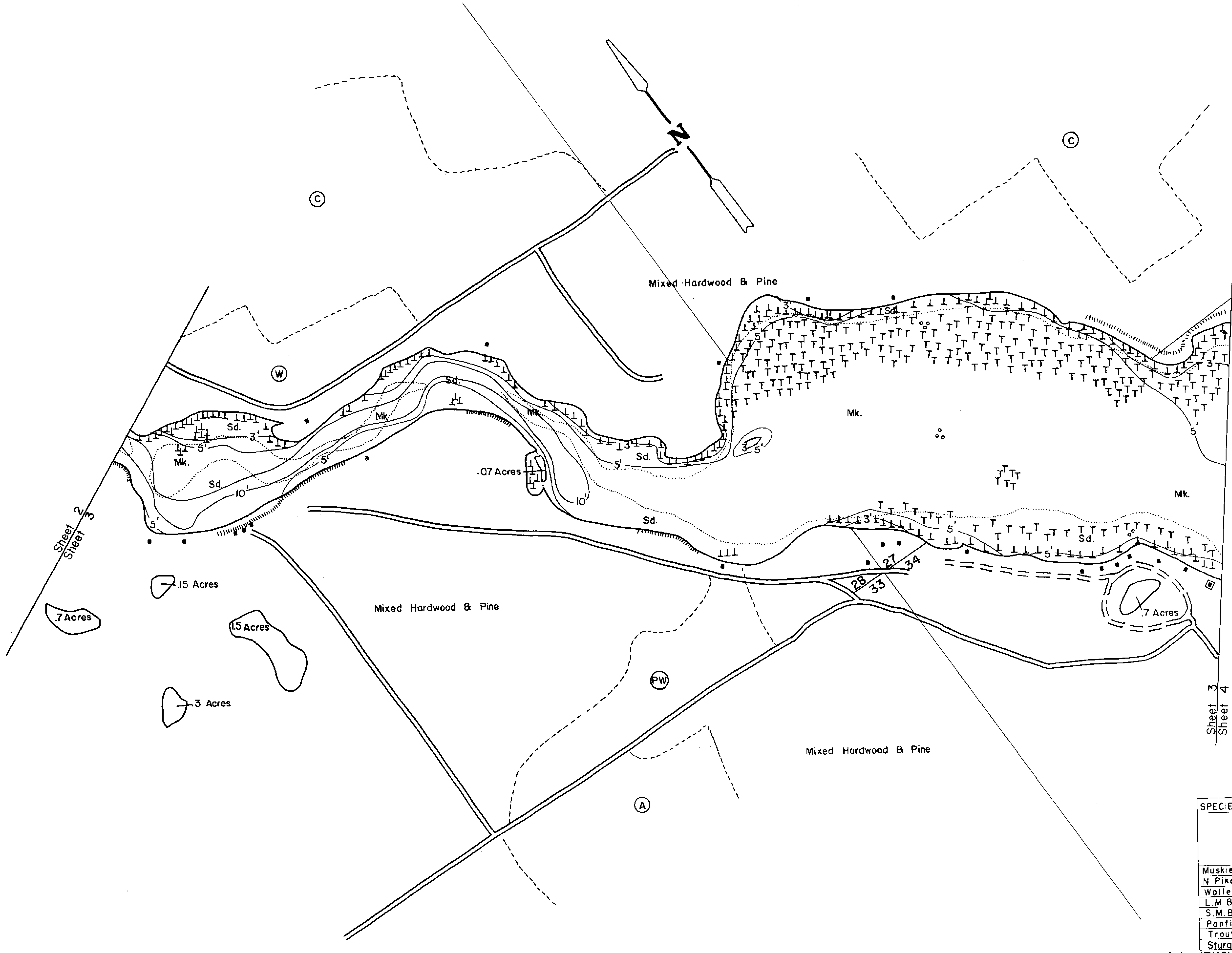
Field work by C. Busch, G. Winter, L. Sather Drawn by: C. Holt

WISCONSIN CONSERVATION DEPARTMENT

LAKE SURVEY MAP

TREGO LAKE — WASHBURN COUNTY

SEC. 27,28,34 T. 40 N. R. 12 E.W.



SPECIES OF FISH	Abundant	Common	Rare
Muskie			X
N. Pike			X
Walleye		X	
L.M. Bass			X
S.M. Bass			X
Panfish	X		
Trout			
Sturgeon			X

EQUIPMENT RECORDING SONAR MAPPED JUNE (MO.) 1966 (YR.)

WATER ELEV. 99.75

TOPOGRAPHIC SYMBOLS
- Ⓑ Brush
- Ⓟⓦ Partially wooded
- Ⓦ Wooded
- Ⓒ Cleared
- Ⓟ Pastured
- Ⓐ Agricultural
- B.M. Bench Mark
- ▪ Dwelling
- ▣ Resort
- Steep slope
- Indefinite shoreline
- Marsh
- Spring
- Intermittent stream
- Permanent inlet
- Permanent outlet
- Dam

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- P. Peat
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- Floating vegetation

SCALE: 400' 0' 400' 800' 1200' 1600' 2000'

◇ Access ◆ Access with Parking ◆ Boat Livery

Field work by C.Busch, G.Winter, L.Sather Drawn by C.Holt

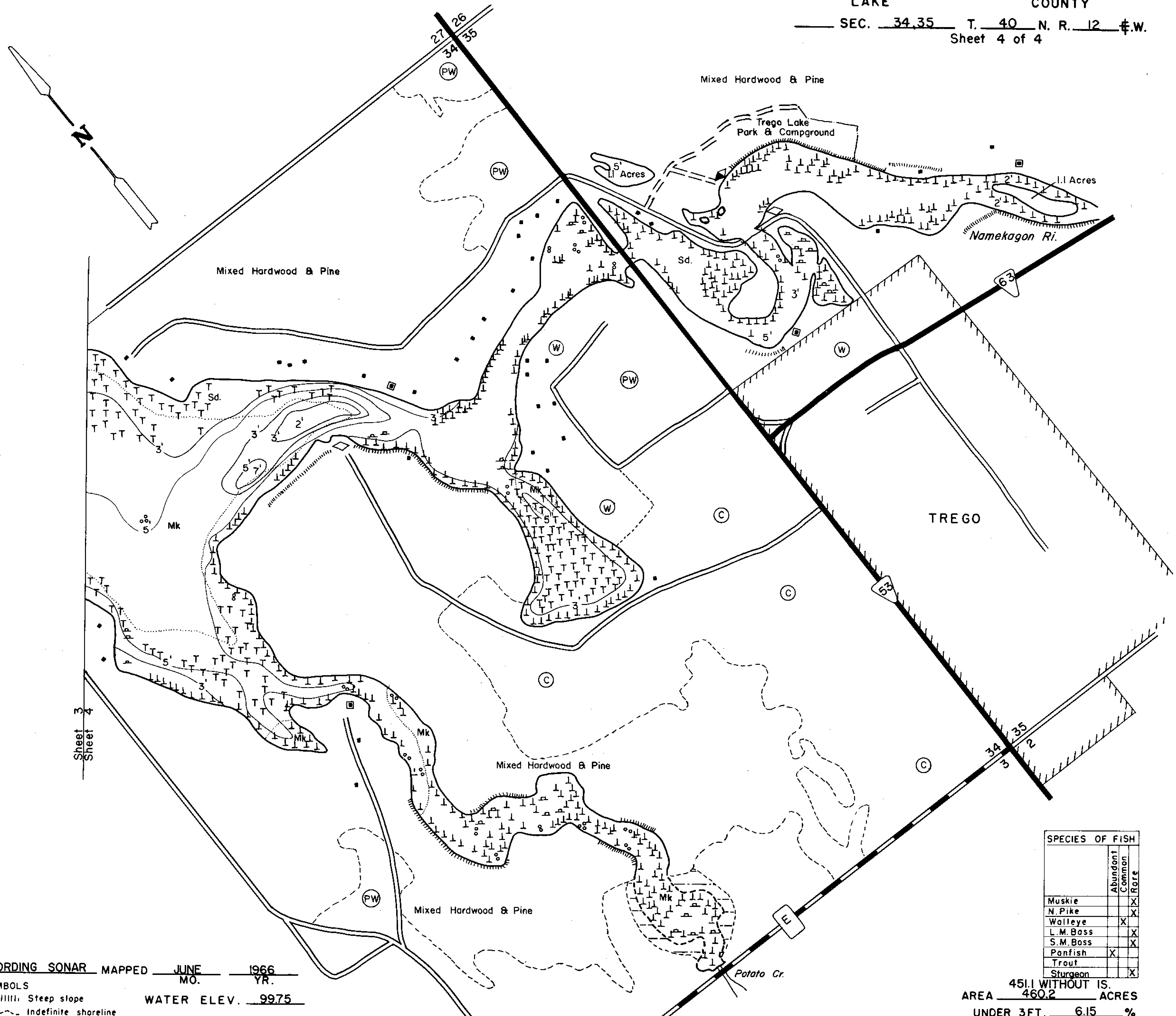
AREA 460.2 ACRES (451.1 WITHOUT IS.)
UNDER 3 FT. 6.15 %
OVER 20 FT. 14.0 %
VOLUME 4770.6 ACRE FT.
TOTAL ALK. 73 P.P.M.
SHORELINE 16.9 MILES
MAX. DEPTH 36 FEET

WISCONSIN CONSERVATION DEPARTMENT

LAKE SURVEY MAP

TREGO LAKE — WASHBURN COUNTY

SEC. 34,35 T. 40 N. R. 12 E.W.



EQUIPMENT RECORDING SONAR MAPPED JUNE (MO.) 1966 (YR.)

WATER ELEV. 9975

TOPOGRAPHIC SYMBOLS

- (B) Brush
- (PW) Partially wooded
- (W) Wooded
- (C) Cleared
- (P) Pastured
- (A) Agricultural
- B.M. Bench Mark
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- Steep slope
- Indefinite shoreline
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- T Submergent vegetation
- Emergent vegetation
- Floating vegetation

SCALE 400' 0' 400' 800' 1200' 1600' 2000'

Access — Access with Parking — Boat Livery

Field work by C.Busch, G.Winter, L.Sather Drawn by: C. Holt

SPECIES OF FISH	Abundant	Common	Rare
Muskie			X
N. Pike			X
Walleye		X	
L.M. Bass			X
S.M. Bass			X
Panfish	X		
Trout			
Sturgeon			X

AREA 460.2 ACRES (451.1 WITHOUT IS.)

UNDER 3 FT. 6.15 %

OVER 20 FT. 14.0 %

VOLUME 4770.6 ACRE FT.

TOTAL ALK. 73 P.P.M.

SHORELINE 16.9 MILES

MAX. DEPTH 36 FEET

Source: Wisconsin Department of Natural Resources 608-266-2621
Trego Lake - Washburn County, Wisconsin DNR Lake Map
Date – Jun 1966 - Historical Lake Map - Not for Navigation
A Public Document - Please Identify the Source when using it.

APPENDIX 4.3.7.1-1 Chapter NR 102 Water Quality Standards

Chapter NR 102

WATER QUALITY STANDARDS FOR WISCONSIN SURFACE WATERS

History: Chapter NR 102 as it existed on September 30, 1973 was repealed and a new chapter NR 102 was created, effective October 1, 1973. Corrections made under s. 13.93 (2m) (b) 7., Stats., Register, August, 1997, No. 500.

NR 102.01 Purpose. (1) The purpose of this chapter is to establish, in conjunction with chs. NR 103 to 105, water quality standards for surface waters of the state pursuant to s. 281.15 (2) (b), Stats. This chapter describes the designated use categories for such waters and the water quality criteria necessary to support these uses. This chapter and chs. NR 103 to 105 constitute the water quality standards for the surface waters of Wisconsin.

(2) Water quality standards shall protect the public interest, which includes the protection of public health and welfare and the present and prospective uses of all waters of the state for public and private water supplies, propagation of fish and other aquatic life and wild and domestic animals, domestic and recreational purposes, and agricultural, commercial, industrial, and other legitimate uses. In all cases where the potential uses are in conflict, water quality standards shall protect the general public interest.

(3) Water quality standards serve as a basis for developing and implementing control strategies to achieve legislative policies and goals. Water quality standards are the basis for deriving water quality based effluent limitations. Water quality standards also serve as a basis for decisions in other regulatory, permitting or funding activities that impact water quality.

History: Cr. Register, February, 1989, No. 398, eff. 3−1−89.

NR 102.02 Applicability. The provisions of this chapter are applicable to surface waters of Wisconsin.

History: Cr. Register, February, 1989, No. 398, eff. 3−1−89.

NR 102.03 Definitions. (1) "Mixing zone" means a region in which a discharge of different characteristics than the receiving water is in transit and progressively diluted from the source to the receiving system.

(2) "Natural conditions" means the normal daily and seasonal variations in climatic and atmospheric conditions, and the existing physical and chemical characteristics of a water or the course in which it flows.

(3) "Natural temperature" means the normal existing temperature of a surface water including daily and seasonal changes outside the zone of influence of any artificial inputs.

(4) "Resource management" means the application of control techniques to enhance or preserve a surface water in accordance with statutory provisions and in the general public interest.

(5) "Sanitary survey" means a thorough investigation and evaluation of a surface water including bacteriological sampling to determine the extent and cause of any bacterial contamination.

(6) "Surface waters" means all natural and artificial named and unnamed lakes and all naturally flowing streams within the boundaries of the state, but not including cooling lakes, farm ponds and facilities constructed for the treatment of wastewaters (the term waters as used in this chapter means surface waters).

(7) "Unauthorized concentrations of substances" means pollutants or other chemicals introduced into surface waters without prior permit or knowledge of the department, but not including accidental or unintentional spills.

(8) "Best practicable control technology" means that level of treatment established by the department under s. 283.13 (2) (a), Stats., for categories and classes of point sources to be achieved by not later than July 1, 1977.

(9) "Best available control technology" means that level of treatment established by the department under s. 283.13 (2) (b) 1., Stats., for categories and classes of point sources to be achieved by not later than July 1, 1983.

(10) Class I and Class II trout waters are as defined in s. NR 1.02 (7).

History: Cr. Register, September, 1973, No. 213, eff. 10−1−73; r. (1), renum. from NR 102.01, Register, February, 1989, No. 398, eff. 3−1−89; cr. (10), Register, May, 1993, No. 449, eff. 6−1−93.

NR 102.04 Categories of standards. (1) GENERAL. To preserve and enhance the quality of waters, standards are established to govern water management decisions. Practices attributable to municipal, industrial, commercial, domestic, agricultural, land development or other activities shall be controlled so that all waters including the mixing zone and the effluent channel meet the following conditions at all times and under all flow conditions:

(a) Substances that will cause objectionable deposits on the shore or in the bed of a body of water, shall not be present in such amounts as to interfere with public rights in waters of the state.

(b) Floating or submerged debris, oil, scum or other material shall not be present in such amounts as to interfere with public rights in waters of the state.

(c) Materials producing color, odor, taste or unsightliness shall not be present in such amounts as to interfere with public rights in waters of the state.

(d) Substances in concentrations or combinations which are toxic or harmful to humans shall not be present in amounts found to be of public health significance, nor shall substances be present in amounts which are acutely harmful to animal, plant or aquatic life.

(2) REVISED STANDARDS. It should be recognized that these standards will be revised as new information or advancing technology indicate that revisions are in the public interest. Water used for hydropower and commercial shipping depends mainly on quantity, depth and elevation; consequently, no specific quality standards for these uses have been prepared.

(3) FISH AND OTHER AQUATIC LIFE USES. The department shall classify all surface waters into one of the fish and other aquatic life subcategories described in this subsection. Only those use subcategories identified in pars. (a) to (c) shall be considered suitable for the protection and propagation of a balanced fish and other aquatic life community as provided in the federal water pollution control act amendments of 1972, P.L. 92−500; 33 USC 1251 et seq.

(a) *Cold water communities.* This subcategory includes surface waters capable of supporting a community of cold water fish and other aquatic life, or serving as a spawning area for cold water fish species. This subcategory includes, but is not restricted to, surface waters identified as trout water by the department of natural resources (Wisconsin Trout Streams, publication 6−3600 (80)).

(b) *Warm water sport fish communities.* This subcategory includes surface waters capable of supporting a community of warm water sport fish or serving as a spawning area for warm water sport fish.

(c) *Warm water forage fish communities.* This subcategory includes surface waters capable of supporting an abundant diverse community of forage fish and other aquatic life.

(d) *Limited forage fish communities.* (Intermediate surface waters). This subcategory includes surface waters of limited capacity and naturally poor water quality or habitat. These surface waters are capable of supporting only a limited community of forage fish and other aquatic life.

(e) *Limited aquatic life.* (Marginal surface waters). This subcategory includes surface waters of severely limited capacity and naturally poor water quality or habitat. These surface waters are capable of supporting only a limited community of aquatic life.

(4) STANDARDS FOR FISH AND AQUATIC LIFE. Except for natural conditions, all waters classified for fish and aquatic life shall meet the following criteria:

(a) *Dissolved oxygen.* Except as provided in par. (e) and s. NR 104.02 (3), the dissolved oxygen content in surface waters may not be lowered to less than 5 mg/L at any time.

(b) *Temperature.* 1. There shall be no temperature changes that may adversely affect aquatic life.

2. Natural daily and seasonal temperature fluctuations shall be maintained.

3. The maximum temperature rise at the edge of the mixing zone above the existing natural temperature shall not exceed 5º F for streams and 3º F for lakes.

4. The temperature shall not exceed 89º F for warm water fish.

(c) *pH.* The pH shall be within the range of 6.0 to 9.0, with no change greater than 0.5 units outside the estimated natural seasonal maximum and minimum.

(d) *Other substances.* Unauthorized concentrations of substances are not permitted that alone or in combination with other materials present are toxic to fish or other aquatic life. Surface waters shall meet the acute and chronic criteria as set forth in or developed pursuant to ss. NR 105.05 and 105.06. Surface waters shall meet the criteria which correspond to the appropriate fish and aquatic life subcategory for the surface water, except as provided in s. NR 104.02 (3).

(e) *Temperature and dissolved oxygen for cold waters.* Streams classified as trout waters by the department of natural resources (Wisconsin Trout Streams, publication 6−3600 (80)) or as great lakes or cold water communities may not be altered from natural background temperature and dissolved oxygen levels to such an extent that trout populations are adversely affected.

1. There shall be no significant artificial increases in temperature where natural trout reproduction is to be protected.

2. Dissolved oxygen in classified trout streams shall not be artificially lowered to less than 6.0 mg/L at any time, nor shall the dissolved oxygen be lowered to less 7.0 mg/L during the spawning season.

3. The dissolved oxygen in great lakes tributaries used by stocked salmonids for spawning runs shall not be lowered below natural background during the period of habitation.

(5) STANDARDS FOR RECREATIONAL USE. A sanitary survey and/or evaluation to assure protection from fecal contamination is the chief criterion in determining the suitability of a surface water for recreational use.

(a) *Bacteriological guidelines.* The membrane filter fecal coliform count may not exceed 200 per 100 ml as a geometric mean based on not less than 5 samples per month, nor exceed 400 per 100 ml in more than 10% of all samples during any month.

(b) *Exceptions.* Whenever the department determines, in accordance with the procedures specified in s. NR 210.06, that wastewater disinfection is not required to protect recreational uses, the recreational use criteria and classifications as established in this subsection and in chs. NR 103 and 104 do not apply.

(6) STANDARDS FOR PUBLIC HEALTH AND WELFARE. All surface waters shall meet the human threshold and human cancer criteria specified in or developed pursuant to ss. NR 105.08 and 105.09, respectively. The applicable criteria vary depending on whether the surface water is used for public drinking water supplies and vary with the type of fish and other aquatic life subcategory. All surface waters providing public drinking water supplies or classified as cold water or warm water sport fish communities as described in sub. (3) shall meet the taste and odor criteria specified in or developed pursuant to s. NR 102.14.

(7) STANDARDS FOR WILDLIFE. All surface waters shall be classified for wildlife uses and meet the wildlife criteria specified in or developed pursuant to s. NR 105.07.

History: Cr. Register, September, 1973, No. 213, eff. 10−1−73; am. (3), Register, December, 1977, No. 264, eff. 1−1−78; renum. from NR 102.02, r. (3) (d) 1. to 3., and (5), renum. (3) (intro.) to (d) (intro.) and (e) and (4) to be (4) (intro.) to (e) and (5) and am. (4) (a), (d), (e) (intro.) and (5), cr. (6) and (7), Register, February, 1989, No. 398, eff. 3−1−89; am. (3) (intro.), (6), (7), r. (3) (a), renum. (3) (b) to (f) to be (3) (a) to (e) and am. (3) (a), Register, August, 1997, No. 500, eff. 9−1−97.

NR 102.05 Application of standards. (1) ANTIDEGRADATION. (a) No waters of the state shall be lowered in quality unless it has been affirmatively demonstrated to the department that such a change is justified as a result of necessary economic and social development, provided that no new or increased effluent interferes with or becomes injurious to any assigned uses made of or presently possible in such waters.

(b) *Classification system.* For the purposes of this subsection, all surface waters of the state, or portions thereof, shall be classified as one of the following:

1. Outstanding resource waters as listed in s. NR 102.10,

2. Exceptional resource waters as listed in s. NR 102.11,

3. Great Lakes system waters as listed in s. NR 102.12 (1),

4. Fish and aquatic life waters as described in s. NR 102.13, or

5. Waters listed in tables 3 through 8 in ss. NR 104.05 to 104.10.

(2) STREAMFLOW. Water quality standards will not be maintained under all natural occurrences of flow, temperature, or other water quality characteristics. The determination of water quality based effluent limitations or other management practices shall be based upon the following conditions except as provided in ch. NR 106 for toxic and organoleptic substances and whole effluent toxicity:

(a) The average minimum 7−day low streamflow which occurs once in 10 years (7−day Q_{10}); or,

(b) In the case of dissolved oxygen and wherever sufficient data on streamflow and temperature are available, by application of a 0.274% level of nonattainment. This is equivalent to an expected nonattainment of the dissolved oxygen criterion of one day per year.

(3) MIXING ZONES. Water quality standards shall be met at every point outside of a mixing zone. The size of the mixing zone cannot be uniformly prescribed, but shall be based on such factors as effluent quality and quantity, available dilution, temperature, current, type of outfall, channel configuration and restrictions to fish movement. For toxic and organoleptic substances with water quality criteria or secondary values specified in or developed pursuant to chs. NR 102 and 105, allowable dilution shall be determined as specified in ch. NR 106 in addition to the requirements specified in this subsection. As a guide to the delineation of a mixing zone, the following shall be taken into consideration:

(a) Limiting mixing zones to as small an area as practicable, and conforming to the time exposure responses of aquatic life.

(b) Providing passageways in rivers for fish and other mobile aquatic organisms.

(c) Where possible, mixing zones being no larger than 25% of the cross−sectional area or volume of flow of the stream and not extending more than 50% of the width.

(d) Final acute criteria and secondary values specified in or developed pursuant to s. NR 105.05 for the fish and aquatic life subcategory for which the receiving water is classified not being exceeded at any point in the mixing zone.

(e) Mixing zones not exceeding 10% of a lake's total surface area.

(f) Mixing zones not interfering with spawning or nursery areas, migratory routes, nor mouths of tributary streams.

(g) Mixing zones not overlapping, but where they do, taking measures to prevent adverse synergistic effects.

(h) Restricting the pH to values greater than 4.0 s.u. and to values less than 11.0 s.u. at any point in the mixing zone for the protection of indigenous fish and fish food organisms.

(4) EXEMPTIONS. The thermal mixing zone provisions of this chapter are not applicable to municipal waste and water treatment plants, to vessels, or to discharges to enclosed harbors.

(5) RESOURCE MANAGEMENT EXEMPTIONS. Application of chemicals for water resource management purposes in accordance with statutory provisions is not subject to the requirements of the standards except in case of water used for public water supply.

(6) ANALYTICAL PROCEDURES. (a) The criteria in the Radiation Protection Code, s. HFS 157.44, shall apply to the disposal and permissible concentrations of radioactive substances.

(b) Methods used for analysis of samples shall be as set forth in ch. NR 219 unless alternative methods are specified by the department.

History: Cr. Register, September, 1973, No. 213, eff. 10−1−73; renum. (5) and (6) to be (6) and (7), cr. (5), Register, July, 1975, No. 235, eff. 8−1−75; r. and recr. (3), Register, August, 1981, No. 308, eff. 9−1−81; correction in (7) made under s. 13.93 (2m) (b) 7., Stats., cr. (4) (h), Register, September, 1984, No. 345, eff. 10−1−84; renum. from NR 102.03, r. (1), cr. (1) (b), renum. (2) to (7) to be (1) (a) to (6) and am. (2), (3) (intro.) and (d) and (6), Register, February, 1989, No. 398, eff. 3−1−89; am. (1) (b) 3., (3) (intro.) and (d), Register, August, 1997, No. 500, eff. 9−1−97; correction in (6) (a) made under s. 13.93 (2m) (b) 7., Stats. Register July 2006 No. 607, eff. 8−1−06.

NR 102.06 Phosphorus. In addition to the requirements established in ch. NR 217, any wastewater discharger, regardless of population, volume or type of waste discharge, or geographic location, may be required to remove excess amounts of phosphorus. Effluent limitations for total phosphorus based on surface water quality may be established where, in the best professional judgment of the department, such limitations will result in an improvement in water quality, or preserve the quality of surface waters where long−term discharges may result in impairment of water quality. Such limitations for phosphorus shall include an evaluation of the discharges from point sources, nonpoint sources, background sources, tributaries, and a consideration of a margin of safety.

History: Cr. Register, July, 1975, No. 235, eff. 8−1−75; am. Register, October, 1986, No. 370, eff. 11−1−86; renum. from NR 102.04, Register, February, 1989, No. 398, eff. 3−1−89; am. Register, November, 1992, No. 443, eff. 12−1−92.

NR 102.07 Lake Michigan and Lake Superior thermal standards. For Lake Michigan and Lake Superior the following thermal standards are established so as to minimize effects on the aquatic biota in the receiving waters.

(1) (a) Thermal discharges shall not raise the receiving water temperature more than 3°F above the existing natural temperature at the boundary of mixing zones established in pars. (b) and (c).

(b) 1. The mixing zone for a shoreline thermal discharge shall be the area included within the perimeter of a rectangular figure extending 1,250 feet in both directions along the shoreline from the outfall and 1,250 feet into the lake.

2. The mixing zone for an offshore thermal discharge shall be the area within a 1,000−foot radius circle with its center at the point of discharge.

(c) The department may, upon request from the owner of a source of thermal discharge, adjust the boundaries of the mixing zone established in par. (b) for that source. In no case may any mixing zone so established include an area greater than 72 acres nor may it include more than 2,800 feet of shoreline.

(2) In addition to the limitation set forth in sub. (1), but excepting the Milwaukee Harbor, Port Washington Harbor and the mouth of the Fox River, thermal discharges to Lake Michigan shall not raise the temperature of the receiving waters at the boundary of the established mixing zone above the following limits:

January	45°F
February	45°
March	45°
April	55°
May	60°
June	70°
July	80°
August	80°
September	80°
October	65°
November	60°
December	50°

History: Cr. Register, September, 1973, No. 213, eff. 10−1−73; r. and recr. Register, July, 1975, No. 235, eff. 8−1−75; renum. from NR 102.05, Register, February, 1989, No. 398, eff. 3−1−89.

NR 102.08 Mississippi river thermal standards. In addition to the standards for fish and aquatic life, the monthly average of the maximum daily temperature in the Mississippi river outside the mixing zone shall not exceed the following limits:

January	40°F
February	40°
March	54°
April	65°
May	75°
June	84°
July	84°
August	84°
September	82°
October	73°
November	58°
December	48°

History: Cr. Register, July, 1975, No. 235, eff. 8−1−75; renum. from NR 102.06, Register, February, 1989, No. 398, eff. 3−1−89.

NR 102.09 Review of thermal standards. (1) Whenever the owner of any source of thermal discharges that existed on or before July 31, 1975, in compliance with department guidelines and after opportunity for public hearing, can demonstrate to the satisfaction of the department that the mixing zone established pursuant to this chapter is more stringent than necessary to assure the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife in and on the receiving water, the department may:

(a) Impose a mixing zone with respect to such thermal discharge that will assure the protection and propagation of such a population, or

(b) Exempt such thermal discharge from the thermal requirements of this chapter provided this exemption will not endanger the propagation of such a population.

(2) Any owner desiring a review pursuant to sub. (1) shall submit a demonstration to the department no later than June 30, 1976. The department shall reach a decision no later than December 31, 1976.

(3) In the event the owner fails to make a satisfactory demonstration pursuant to sub. (1), the department shall establish a compliance date for the thermal component to be achieved no later than July 1, 1979.

(4) Whenever the owner of any source of thermal discharges that commenced on or after August 1, 1975, in compliance with department guidelines and after opportunity for public hearing, can demonstrate to the satisfaction of the department that the mixing zone established pursuant to this chapter is more stringent than necessary to assure the protection and propagation of a balanced, indigenous population of shellfish, fish and wildlife in and on the receiving water, the department may:

(a) Impose a mixing zone with respect to such thermal discharge that will assure the protection and propagation of such a population, or

(b) Exempt such thermal discharge from the thermal requirements of this chapter provided this exemption will not endanger the propagation of such a population.

(5) In the event an owner fails to make a satisfactory demonstration pursuant to sub. (4), the discharge shall be in compliance with the thermal requirements of this chapter upon commencement of the discharge.

(6) The department may require the reduction of thermal discharges or the size and configuration of a mixing zone if it finds that environmental damage is imminent or existent.

History: Cr. Register, July, 1975, No. 235, eff. 8−1−75; am. Register, February, 1977, No. 254, eff. 3−1−77; renum. from NR 102.07, Register, February, 1989, No. 398, eff. 3−1−89.

NR 102.10 Outstanding resource waters. (1) The following surface waters are designated as outstanding resource waters:

(a) *National wild and scenic rivers.* All rivers designated under the national wild and scenic rivers act, as amended, 16 USC 1271 to 1287, except those portions flowing through Indian reservations, including:

1. St. Croix river between the northern boundary of the Hudson city limits and the St. Croix flowage dam in Douglas county except that the portion of the St. Croix river from the northern boundary of the St. Croix Falls city limits to a distance one mile below the STH 243 bridge at Osceola shall be classified exceptional resource waters under s. NR 102.11.

2. Namekagon river between its confluence with the St. Croix river and the outlet of Lake Namekagon in Bayfield county.

(b) *State wild and scenic rivers.* All state wild and scenic rivers designated under s. 30.26, Stats., including:

1. Pike river in Marinette county.

2. Pine river and its tributary Popple river in Florence and Forest counties.

(c) Wolf river upstream of the northern Menominee county line.

(d) The following Class I trout waters:

1. Adams county — Big Roche−a−Cri creek

2. Barron county — Yellow river

3. Bayfield county — Flag river, Sioux river

4. Burnett county — North Fork Clam river, South Fork Clam river

5. Chippewa county — Duncan creek, Elk creek, McCann creek

6. Dane county — Black Earth creek above the easternmost CTY KP crossing

7. Door county — Logan creek

8. Douglas county — Bois Brule river and its tributaries including the waters of Lake Superior within a ¼ mile semi−circular arc centered at the middle of the river mouth

9. Dunn county — Elk creek

10. Florence county — Brule river including Montagne creek and Riley creek tributaries; tributaries to the Pine−Popple rivers including Chipmunk, Cody, Haley, Haymarsh, LaMontagne, Lepage, Lunds, Martin, Olson, Patten, Pine, Riley, Rock, Simpson, Seven Mile, Wakefield and Woods creeks; Little Popple river

11. Forest county — Brule river

13. Kewaunee county — Little Scarboro creek

14. Langlade county — Clearwater creek, Drew creek, Evergreen river, South Branch Oconto river

15. Lincoln county — Center fork New Wood creek, Little Pine creek, Prairie river

16. Marathon county — Holt creek, Spranger creek, Plover river

17. Marinette county — Cedarville creek, Otter creek, Holmes creek, East Thunder creek, North fork Thunder river, Eagle creek, Little Eagle creek, Plumadore creek, Meadow brook, Upper Middle Inlet creek, Middle Inlet creek, Wausaukee river, Little Wausaukee creek, Coldwater brook, Medicine brook, South Branch Miscauno river, Miscauno river, Swede John creek, South Branch Pemebonwon river, Spikehorn creek, Silver creek, Little Silver creek, Sullivan creek; tributaries to the Pike river including Little South Branch Pike river, Camp D creek, Camp F creek, Camp 9 creek, Cole creek, Glen creek, Harvey creek, North Branch Harvey creek, South Branch Harvey creek, Hemlock creek, Holloway creek, K.C. creek, Little Harvey creek, Lost creek, MacIntire creek, Phillips creek, Sackerson creek, Shinns creek, Sidney creek, Smeesters creek, Springdale brook, Whiskey creek

18. Marquette county — Chaffee creek, Lawrence creek, Tagatz creek

19. Monroe county — Rullands Coulee creek

20. Oconto county — First South Branch Oconto river, Second South Branch Oconto river, South Branch Oconto river, Hills Pond creek

21. Polk county — Clam river, McKenzie creek

22. Portage county — Emmons creek, Radley creek, Sannes creek, Tomorrow river, Trout creek

23. Richland county — Camp creek

24. Sheboygan county — Nichols creek

25. St. Croix county — Kinnickinnic river above STH "35"

26. Vernon county — Rullands Coulee creek, Spring Coulee creek, Timber Coulee creek

27. Vilas county — Deerskin river, Plum creek

28. Walworth county — Bluff creek, Potawatomi creek, Van Slyke creek

29. Waupaca county — Emmons creek, Griffin creek, Jackson creek, Leers creek, Peterson creek, Radley creek, Sannes creek, Spaulding creek, Trout creek, Whitcomb creek, North Branch Little Wolf river

30. Waushara county — Willow creek north of Redgranite, Mecan river north of Richford, Little Pine creek, West Branch White river

(e) The following Class II trout waters:

1. Barron county — Yellow river

2. Burnett county — North Fork Clam river

3. Forest county — Brule river, Peshtigo river

4. Grant county — Big Green river, Castle Rock creek
5. Marinette county — Peshtigo river
6. Polk county — McKenzie creek
7. Vilas county — Plum creek

(f) The following cold or warm water streams and rivers or portions thereof:

1d.	Ashland	Bad River	SEG 1: Origin to Outfall in Mellen at NW¼SW¼ S6 T44N R2W
		Brunsweiler River	SEG 1: Origin to Inlet of Spider Lake
			SEG 2: Outlet of Moquah Lake to Inlet of Mineral Lake
			SEG 3: Outlet of Mineral Lake to Inlet of Beaverdam Lake
			SEG 4: Outlet of Beaverdam Lake (at the dam) to the Bad River Indian Reservation Boundary
1h.	Ashland & Bayfield	Marengo River	SEG 1: Origin to Inlet of Marengo Lake
			SEG 2: Outlet of Marengo Lake to Bad River Indian Reservation Boundary
1p.	Ashland & Sawyer	E. Fork Chippewa River	SEG1: T42N R1E S17/18 Line to Ashland County Highway "N" in Glidden SEG 6: Outlet of Barker Lake to Confluence with Chippewa Flowage
			SEG 3: Outlet of Pelican Lake to Inlet of Blaisdell Lake
			SEG 4: Outlet of Blaisdell Lake to Inlet of Hunter Lake
			SEG 5: Outlet of Hunter Lake to Inlet of Barker Lake
1t.	Barron	Engle Creek	Class I & II Portions
		Hickey Creek	Class I & II Portions
		Red Cedar River	SEG 1: Outlet of Red Cedar Lake to Inlet of Rice Lake
		Rock Creek	SEG 2: All within Barron County
		Upper Pine Creek	Above Dallas Flowage
2.	Bayfield	Bark River	All−Class I Portions including the waters of Lake Superior within a ¼ mile semi−circular arc centered at the middle of the river mouth
		Big Brook	All
		Cranberry River & Tribs.	All−Class I Portion including the waters of Lake Superior within a ¼ mile semi−circular arc centered at the middle of the river mouth.
		East Fork Iron River & Tribs.	All−Class I Portion
		East Fork White River	All−Class I Portion
		Eighteen Mile Cr. & Tribs.	All−Class I Portion
		Fish Creek (Main)	All including the waters of Lake Superior within a ¼ mile semi−circular arc centered at the middle of the river mouth.
		Long Lake Branch & Tribs.	From below Drummond Lake to White River
			All−Class I Portions
		No. Fork Fish Creek & Tribs.	All−Class I & II Portions
		Onion River & Tribs.	All−Class I Portions including the waters of Lake Superior within a ¼ mile semi−circular arc centered at the middle of the river mouth.
		Pikes Creek & Tribs.	All−Class I Portion including the waters of Lake Superior within a ¼ mile semi−circular arc centered at the middle of the river mouth.

		Sioux River & Tribs.	All−Class I & II Portions including the waters of Lake Superior within a ¼ mile semi−circular arc centered at the middle of the river mouth.
		So. Fork White River	All−Class I Portion
		Thompson Creek	All−Class I Portion
		Twenty Mile Creek	All−Class I & II Portions
		White River	All−Class I Portion
		Whittlesey Creek & Tribs.	All−Class I Portions including the waters of Lake Superior within a ¼ mile semi−circular arc centered at the middle of the river mouth.
2d.	Bayfield & Ashland	Beartrap Creek	SEG 1: Origin to Bad River Indian Reservation Boundary
2h.	Bayfield, Ashland & Sawyer	West Fork Chippewa River	SEG 1: Origin (Outlet of Chippewa Lake) to Inlet of Day Lake
			SEG 2: Outlet of Day Lake to Inlet of Upper Clam Lake
			SEG 3: Outlet of Upper Clam Lake to Inlet of Lower Clam Lake
			SEG 4: Outlet of Lower Clam Lake to Inlet of Cattail Lake
			SEG 5: Outlet of Cattail Lake to Inlet of Meadow Lake
			SEG 6: Outlet of Meadow Lake to Inlet of Partridge Crop Lake
			SEG 7: Outlet of Partridge Crop Lake to Inlet of Moose Lake
			SEG 8: Outlet of Moose Lake to Sawyer County Highway "B"
2p.	Bayfield, Sawyer, Washburn, Douglas & Burnett	Totagatic River	SEG 1: Origin (Confluence of West Fork Totagatic River and East Fork Totagatic River) to Inlet of Nelson Lake
			SEG 2: Outlet of Totagatic Flowage to Inlet of Colton Flowage
			SEG 3: Outlet of Colton Flowage to Inlet of Minong Flowage
			SEG 4: Outlet of Minong Flowage to Confluence with Namekagon River
3.	Burnett	North Fork Clam River	County Highway "H" to Confluence with Clam River
		Tributaries to the N. & S. Forks of the Clam River	All−Class I & II Portions
4.	Dane	Mt. Vernon Creek	All−Class I Portion
5.	Door	Mink River	All
5m.	Douglas	Amnicon River	SEG 1: Origin (Outlet of Amnicon Lake) to Inlet of Lyman Lake
			SEG 2: Outlet of Lyman Lake to mouth at Lake Superior, including the waters of Lake Superior within a ¼ mile semi−circular arc centered at the middle of the river mouth.
		Moose River	All
		Spruce River	All
		St. Croix River	SEG 1: Outlet of Upper St. Croix Lake to Inlet of St. Croix Flowage
6.	Forest	Allen Creek	All
		Brule Creek	All
		Elvoy Creek	All
		Jones Creek	Class I & II portions
		North Otter Creek	All

6m.	Forest & Langlade	Swamp Creek	SEG 1: Outlet of Lake Lucerne to Mole Lake Indian Reservation Boundary
			SEG 3: All below Mole Lake Indian Reservation Boundary to Confluence of Wolf River
7.	Grant	Little Green River	All
7m.	Iron & Ashland	Tyler Forks	SEG 1: Origin in Iron County to Bad River Indian Reservation Eastern Boundary in Ashland County
			SEG 3: From Bad River Indian Reservation Southern Boundary to Confluence with Bad River
		Potato River	SEG 1: Origin to Bad River Indian Reservation Boundary
8.	Iron, Ashland & Price	Flambeau River	SEG 1: Turtle−Flambeau Flowage (Outlet @ Turtle−Flambeau Dam) to Inlet of Upper Park Falls Flowage
		No. Fork Flambeau River	From Turtle−Flambeau Flowage Dam downstream to Park Falls
9.	LaCrosse	Berge Coulee Creek	All
10.	Langlade	Elton Creek	Class I Portion
		Little Evergreen Creek	All
		Mayking Creek	All
		Michelson Creek	All
		Mid Branch Embarrass River	Class I Portion
10m.	Lincoln	New Wood River	Origin (T33N R4E S14) to Confluence with Wisconsin River
11.	Marathon	Falstad Creek	Class II Portion
		So. Branch Embarrass River	Class I Portion
12.	Marinette	No. Branch Beaver Creek	Entire River & tributaries
13.	Oneida	Noisy Creek	Class II Portion
		Squirrel River	Outlet of Squirrel Lake to Confluence with Tomahawk River
		Tomahawk River	SEG 2: Outlet of Willow Flowage Dam to Inlet of Lake Nokomis
14.	Pierce	Kinnickinnic River	From Powell Dam to St. Croix River
15.	Polk	Sand Creek & Tribs	All−Class I & II Portions
15e.	Polk & Burnett	Clam River	SEG 1: Outlet of Clam Falls Flowage to Inlet of Clam Lake
			SEG 2: Outlet of Lower Clam Lake to Section Line @ T39N R16W S21/22
15m.	Price	Elk River	SEG 1: Headwaters to Inlet of Musser Lake
	Price & Lincoln	Spirit River	Outlet of Spirit Lake to Inlet of Spirit River Flowage
16.	Price, Rusk & Sawyer	So. Fork Flambeau River	All−Round L. Dam downstream to Jxn with No. Fork Flambeau R.
17.	Richland	Elk Creek	All
18.	Rusk	Devils Creek	All−Class I & II Portions
		Soft Maple Creek	SEG 1: Origin to Rusk County Highway “F”
		So. Fork Main Creek	Class I & II Portions (T35N R3W S28 downstream to T34N R4W S11)
		Swift Creek	Outlet of Island Lake to Inlet of Fireside Lake
19.	Sauk	Otter Creek	From headwaters to southern section line of T11N R6E S33
		Parfrey’s Glen	From headwaters to CTH DL
20.	Sawyer	Benson Creek	All−Class I Portion

		Couderay River	SEG 1: Origin at Outlet of Billy Boy Flowage to Inlet of Grimh Flowage (Including Waters within Lac Courte Oreilles Indian Reservation)
		Eddy Creek	All−Class I Portion
		Grindstone Creek	All−Class I Portion
		Knuteson Creek	SEG 1: Outlet of Wise Lake to Inlet of Knuteson Lake
			SEG 2: Outlet of Knuteson Lake to Inlet of Lake Chetek
		Little Weirgor Creek & Tribs	All−Class I & II Portions
		McDermott Creek	All
		Mosquito Brook	All−Class I Portion
		Teal River	Outlet of Teal Lake to Confluence with West Fork Chippewa River
20m.	Sawyer & Rusk	Thornapple River	SEG 1: Origin to Rusk County Highway “J”
		Chippewa River	SEG 1: Dam at Chippewa Flowage to Inlet of Radisson Flowage (T38N R7W S13)
21.	Shawano	Middle Br. Embarrass R.	Origin to but not including Homme Pond
		No. Br. Embarrass R.	Origin to CTH J
		So. Br. Embarrass R.	Origin to but not including Tigerton Pond
21g.	Taylor & Chippewa	Yellow River	SEG 1: Confluence with South Fork Yellow River to Inlet of Chequamegon Waters Flowage
			SEG 2: Outlet of Chequamegon Waters Flowage (at Miller Dam) to State Highway 64/73
21r.	Taylor & Price	Silver Creek	SEG 1: Origin to Westboro Sanitary District Outfall
22.	Vilas	Allequash Springs	Class I & II Portions
		Brule Creek	All
		East Br. Blackjack Cr.	All
		Elvoy Creek & Springs	Class I & II Portions
		Manitowish River	SEG 1: Adjacent to Dam Road Downstream to Inlet of Boulder Lake
			SEG 2: Outlet of Boulder Lake to Inlet of Island Lake
		Mishonagon Creek	Class I & II Portions
		Siphon Creek	All
		Spring Meadow Creek	Class I Portion
		Tamarack Creek	All
		Trout River	SEG 1: Outlet of Trout Lake to Lac Du Flambeau Indian Reservation Eastern Boundary
22m.	Vilas & Oneida	Wisconsin River	SEG 1: Orgin (Outlet of Lac Vieux Desert) to Inlet of Watersmeet Lake
23.	Washburn	Beaver Brook	All−Class I Portion
		Sawyer Creek	All−Class I & II Portions
		So. Fork Bean Brook	All−Class I Portion
		Stuntz Brook	Origin to Confluence with Namekagon River
23m.	Washburn & Barron	Bear Creek	SEG 1: Outlet of Kekegama Lake to Inlet of Bear Lake
			SEG 2: Outlet of Bear Lake to Inlet at Stump Lake

(1m) The following lakes are designated as outstanding resource waters:

1.	Ashland	Bad River Slough
		Kakagon Slough
		Lake Superior within ¼ mile of the shoreline of the islands within the Apostle Island National Lakeshore
2.	Barron	Bear Lake (T36N R12W S2)
		Red Cedar Lake
		Sand Lake
		Silver Lake
3.	Bayfield	Bark Bay Slough
		Diamond Lake
		Lake Superior within ¼ mile of the shoreline of the islands within the Apostle Island National Lakeshore
		Middle Eau Claire Lake

		Namekagon Lake
		Owen Lake
		Pike Chain of Lakes (Pike, Millicent, Buskey Bay, Hart, Twin Bear, Eagle, Flynn and Hildur Lakes)
		Star Lake
		Upper Eau Claire Lake
4.	Burnett	Big Mckenzie Lake
		Big Sand Lake
		Sand Lake (T40N R15W S25)
5.	Columbia	Crystal Lake
6.	Douglas	Bond Lake
		Lower Eau Claire Lake
		Nebagamon Lake
		St. Croix (Gordon) Flowage
		Upper St. Croix Lake
		Whitefish Lake (Bardon)
7.	Florence	Edith Lake
		Keyes Lake
		Lost Lake
		Perch Lake
		Riley Lake, South
8.	Forest	Butternut Lake
		Franklin Lake
		Lucerne Lake (Stone)
		Metonga Lake
9.	Iron	Catherine Lake
		Cedar Lake
		Gile Flowage
		Hewitt Lake
		Owl Lake
		Trude Lake
		Turtle−Flambeau Flowage
9m.	Marinette	Caldron Falls Flowage
10.	Oconto	Archibald Lake
		Bass Lake (T32N R15E S9)
		Bear Paw Lake
		Boot Lake
		Chain Lake
11.	Oneida	Big Carr Lake
		Clear Lake (T39N R7E S16)
		Little Tomahawk Lake
		Tomahawk Lake
		Two Sisters Lake
		Willow Flowage
12.	Polk	Pipe Lake
13.	Price	Cochram Lake
		Tucker Lake
14.	Rusk	Bass Lake (T34N R9W S16)
		Fish Lake
		Island Chains of Lakes (Chain, Clear, McMann, and Island Lakes)
		Three Lakes No. 1 (T36N R9W S25)
15.	St. Croix	Bass Lake (T30N R19W S23)
		Perch Lake
16.	Sauk	Devils Lake
17.	Sawyer	Barker Lake
		Blaisdell Lake
		Camp Smith Lake
		Evergreen Lake
		Grindstone Lake
		Lac Court Oreilles
		Lake Chippewa (Chippewa Flowage)
		Nelson Lake
		Osgood Lake
		Perch Lake (T42N R6W S25)
		Round Lake (Big Round)
		Sand Lake
		Spider Lake
		Teal Lake
		Whitefish Lake
18.	Vilas	Black Oak Lake
		Crab Lake
		Crystal Lake (T41N R7E S27)
		Lac Vieux Desert
		North Twin Lake
		Pallette Lake (Clear)
		Partridge Lake
		Plum Lake
		South Twin Lake
		Star Lake
		Stormy Lake
		Trout Lake
		White Sand Lake (T24N R7E S26)
19.	Walworth	Lulu Lake
20.	Washburn	Bass Lake (T40N R10W S17)
		Long Lake
		Middle McKenzie Lake
		Shell Lake
		Stone Lake (T39N R10W S24)
21.	Waukesha	Spring Lake (T5N R18E S9)
22.	Waupaca	Graham Lake (Nelson)
		North Lake
23.	Waushara	Gilbert Lake
		Lucerne Lake (Egans)
		Norwegian Lake
		Pine Lake (Springwater)

(2) The waters in sub. (1) and (1m) may not be lowered in quality.

(3) Surface waters, or portions thereof, may be added to, or deleted from, the outstanding resource waters designation through the rule making process under the provisions of ch. 227, Stats., and s. NR 2.03.

History: Cr. Register, February, 1989, No. 398, eff. 3−1−89; am. (1) (d), cr. (1) (e), Register, July, 1989, No. 403, eff. 8−1−89; cr. (1) (f) and (1m), am. (2), Register, May, 1993, No. 449, eff. 6−1−93; am. (1m) 6., 9. and 11., cr. (1m) 9m., Register, February, 1998, No. 506, eff. 3−1−98; CR 05−089: am. (1) (d) 8., (f) 2., (1m) 1. and 3. Register July 2006 No. 607, eff. 8−1−06; CR 05−105: renum. (1) (f) 1. to be 1t. and am., cr. (1) (f) 1d., 1h., 1p., 2d., 2h., 2p., 5m., 6m.,. 7m., 10m., 15e., 15m., 15s., 20m., 21g., 21r., 22m., and 23m., am. (1) (f) 3., 8. 13., 18., 20., 22., and 23., Register November 2006 No. 611, eff. 12−1−06; **reprinted to correct error in (1) (d) 6. Register March 2008 No. 627.**

NR 102.11 Exceptional resource waters. (1) Surface waters which provide valuable fisheries, hydrologically or geologically unique features, outstanding recreational opportunities, unique environmental settings, and which are not significantly impacted by human activities may be classified as exceptional resource waters. All the following surface waters are designated as exceptional resource waters:

(a) Class I trout waters listed in Wisconsin Trout Streams publication 6−3600 (80) that are not listed in s. NR 102.10.

(b) Other Class I trout waters:

1. Abraham Coulee creek in section 29, township 20 north, range 8 west from its headwaters to the Abraham Coulee road bridge in Trempealeau county.

2. Bear creek originating in section 3, township 20 north, range 7 west in Trempealeau county.

3. Biser creek originating in section 19, township 12 north, range 3 west in Sauk county.

4. Bostwick creek from CTH M upstream 6.2 miles to the headwaters in LaCrosse county.

5. Bufton Hollow creek originating in section 23, township 12 north, range 2 west in Richland county.

6. Columbus creek originating in section 29, township 20 north, range 6 west in Jackson county.

7. Dutch creek originating in section 12, township 19 north, range 8 west in Trempealeau county.

8. Joe Coulee creek originating in section 1, township 20 north, range 7 west in Trempealeau county.

9. Little creek originating in section 21, township 20 north, range 6 west in Jackson county.

10. Marble creek originating in section 30, township 10 north, range 3 east in Sauk county.

11. Marshall creek originating in section 4, township 11 north, range 1 west in Richland county.

12. Martin creek originating in section 22, township 6 north, range 2 east in Iowa county.

13. South Bear creek originating in section 2, township 12 north, range 2 west in Richland county.

14. Spring brook downstream from CTH Y south of Antigo to its confluence with the Eau Claire river in Marathon county.

15. Spring Coulee creek from the headwaters to SE 1/4, SE 1/4, section 33, township 16 north, range 1 east in Monroe county.

16. Unnamed creek 2−12 originating in section 36, township 20 north, range 7 west of Trempealeau county.

17. Unnamed creek 4−9 originating in section 4, township 11 north, range 1 west in Richland county.

18. Unnamed creek 5−6 originating in section 6, township 19 north, range 8 west in Trempealeau county.

19. Unnamed creek 7−4 originating in section 6, township 20 north, range 7 west in Trempealeau county.

20. Unnamed creek 8−9 originating in section 5, township 20 north, range 7 west in Trempealeau county.

21. Unnamed creek 8−14 originating in section 1, township 20 north, range 8 west in Trempealeau county.

22. Unnamed creek 9−13 originating in section 4, township 20 north, range 6 west in Jackson county.

23. Unnamed creek 10−8 originating in section 10, township 11 north, range 1 west in Richland county.

24. Unnamed creek 10−10 originating in section 14, township 20 north, range 6 west in Jackson county.

25. Unnamed creek 11−4 originating in section 1, township 20 north, range 7 west in Trempealeau county.

26. Unnamed creek 11−7 originating in section 2, township 20 north, range 7 west in Trempealeau county.

27. Unnamed creek 13−3a originating in section 19, township 20 north, range 6 west in Trempealeau county.

28. Unnamed creek 13−3b originating in section 6, township 20 north, range 6 west in Trempealeau county.

29. Unnamed creek 15−13 originating in section 1, township 20 north, range 8 west in Trempealeau county.

30. Unnamed creek 15−4 originating in section 3, township 20 north, range 6 west in Trempealeau county.

31. Unnamed creek 16−2 originating in section 22, township 20 north, range 6 west in Jackson county.

32. Unnamed creek 17−5 originating in SE 1/4, section 5, township 20 north, range 6 west in Jackson county.

33. Unnamed creek 24−3a originating in section 24, township 11 north, range 1 west in Richland county.

34. Unnamed creek 26−7 originating in section 2, township 20 north, range 6 west in Jackson county.

35. Unnamed creek 34−2 originating in section 17, township 20 north, range 8 west in Trempealeau county.

36. Unnamed creek 34−15 originating in section 27, township 20 north, range 7 west in Trempealeau county.

37. Unnamed stream originating in section 29, township 10 north, range 3 east in Sauk county.

38. Washington Coulee creek originating in section 29, township 20 north, range 6 west in Jackson county.

(c) The following Class II trout waters:

1. Ashland county — White river above the Bad River Indian reservation

2. Bayfield county — White river

3. Dane county — Mt. Vernon creek

4. Forest county — North Branch Oconto river

5. Grant county — Blue river

6. Iowa county — Blue river

7. Langlade county — Prairie river, South Branch Oconto river

8. Lincoln county — Prairie river

9. Marquette county — Mecan river

10. Oconto county — North Branch Oconto river, South Branch Oconto river

11. Pierce county — Rush river

12. Portage county — Tomorrow river

13. Richland county — Willow creek

14. St. Croix county — Willow river, Race Branch

15. Waushara county — Mecan river

(d) The following cold or warm water streams and rivers or portions thereof:

1g.	Ashland	Bad River	SEG 2: Outfall in Mellen at NE¼SW¼ S6 T44N R2W to Bad River Indian Reservation Boundary
1r.	Ashland & Sawyer	East Fork Chippewa River	SEG 2: Ashland County Highway ”N” to Confluence of Rocky Run Creek (Includes Glidden POTW)
1t.	Barron	Brill River	All−Class II Portion
2.	Crawford	Copper Creek	All
		Plum Creek	All

Unofficial Text (See Printed Volume). Current through date and Register shown on Title Page.

		Sugar Creek	From headwaters to T10N R6W S10
		Tainter Creek	From Vernon County Line to CTH B
3.	Dane	Blue Mounds Branch	All
		Deer Creek	All
		Dunlap Creek	All
		Elvers Creek (Bohn Cr.)	All
		Flynn Creek	All
		Fryes Feeder Creek	All
		Garfoot Creek	All
		Milum Creek	All
		Rutland Branch	All
		Ryan Creek	All
		Schalpbach Creek	All
		Sixmile Creek	All
		Spring Creek (Lodi)	All
4.	Dane, Sauk, Iowa, Grant, Richland, Crawford	Wisconsin River	From below Prairie du Sac to Prairie du Chien
5.	Dane & Green	Little Sugar River	Above New Glarus
		Story Creek (Tipperary)	All, originating in T5N R8E S36
		Sugar Creek	All
6.	Dunn	Sand Creek	From Chippewa County Line to mouth
7.	Eau Claire	Lowes Creek	From Hwy 37 & 85 upstream to headwaters
8.	Fond du Lac	Feldner's Creek	From headquarters to Mischo's Millpond
		Lake Fifteen Creek	Entire Creek above & below Lake Fifteen
9.	Forest	Armstrong Creek	All
		Middle Br. Peshtigo R.	All
		North Br. Peshtigo R.	All
		North Br. Popple R.	All
		West Br. Armstrong Creek	Class II Portion
10.	Grant	Doc Smith Branch	All
		Little Platte River	From Arthur downstream to Platte River
11.	Grant & Iowa	Big Spring Branch	From Springhead to Blue River
12.	Green	Burgy Creek	All
		Gill Creek	All
		Hefty Creek, North Branch	All
		Hefty Cr., Center Branch	All
		Liberty Creek	All
		Norwegian Creek	All
		Richland Creek	All
		Ross Crossing	All
		Sylvester Creek	All
		Spring Valley Creek	All
		Ward Creek	All
13.	Green & Rock	Allen Creek	Below Evansville
14.	Iowa	Harker−Lee−Martin System	From headwaters to T6N R2ES10
15.	Iron	Maintowish River	All
15m.	Iron & Ashland	Vaughn Creek	SEG 1: Origin to Bad River Indian Reservation Boundary
16.	Jackson	Trempealeau River	From STH 95 at Hixton to CTHP at Taylor
17.	Jefferson	Allen Creek	All
18.	Kewaunee	Casco Creek	From T24N R24E S19 downstream of Rock Ledge to Kewaunee River
19.	La Crosse	Bostwick Creek	From headwaters to County Hwy 'O'
		Coon Creek	All
		Dutch Creek	From headwaters to Russian Coulee Road (section 8)
20.	Lafayette	Galena River	From headwaters to Buncombe Road
21.	Langlade	East Br. Eau Claire R.	From STH 64 upstream to firelane crossing in T33N R11E S35 SW1/4
		Hunting River	From Fitzgerald Dam Road downstream to T33N R11E S1
22.	Lincoln	North Br. Prairie River	From headwaters to CTHJ to T33N R8E
		Silver Creek	All
23.	Manitowoc	Branch River	All
24.	Monroe	Big Creek	From headwaters to Acorn Rd (S7)
		Farmers Valley Creek & Tribs	From headwaters to I−90 (S19)

		Soper Creek	All
25.	Oneida	Bearskin Creek	From Tomahawk River to Little Bearskin Lake
25m.	Oneida & Lincoln	Wisconsin River	SEG 2: Hat Rapids Dam to Lincoln County A crossing
			SEG 4: Grandfather Dam to Inlet of Alexander Lake
26.	Pierce	Big River	Class I Portion
		Cady Creek	From CTH P upstream
		Trimbelle River	All
26c.	Polk & Burnett	Clam River	SEG 3: Section Line @ T39N R16W S21/22 to Inlet of Clam River Flowage
			SEG 4: Outlet of Clam River Flowage to Confluence with St. Croix River
26g.	Price	North Fork Jump River	SEG 1: Origin (outlet of Cranberry Lake) to Inlet of Spring Creek Flowage
			SEG 2: Outlet of Spring Creek Flowage to Confluence with South Fork Jump River
26n.	Price, Rusk & Taylor	Jump River	SEG 1: Confluence of the North Fork Jump River and South Fork Jump River to the Village of Jump River
26r.	Price, Sawyer, Rusk	Flambeau River	SEG 2: Crowley Dam to Inlet of Big Falls Flowage
26w.	Price & Taylor	South Fork Jump River	Origin to Confluence with North Fork Jump River
27.	Richland	Babb Hollow	All−Trib to Mill Creek
		Hanzel Creek (Hansell)	All−Trib to Melancthon Cr.
		Melancthon Creek	Class II Section
		Coulter Hollow Creek	All−Trib to Mill Creek
		E. Branch Mill Creek	All
		Happy Hollow Creek	All−Trib to Willow Creek
		Higgins Creek	All−Trib to Mill Creek
		Hood Hollow Creek	All−Trib to Mill Creek
		Jacquish Hollow Creek	All−Trib to Willow Creek
		Kepler Branch	All−Trib to Mill Creek
		Mill Creek	From headwaters to above Boaz
		Miller Branch	All−Trib to Mill Creek
		Pine Valley Creek	All−Trib to Mill Creek
		Ryan Hollow	All−Trib to West Branch Mill Creek
		Wheat Hollow Creek	All
		W. Branch Mill Creek	All
28.	Rock	Bass Creek	All
		East Fork Raccoon Cr.	All
		Little Turtle Creek	All
		Raccoon Creek	All
		Spring Brook	All
		Turtle Creek	All
		Unnamed Creek T2N R14E S31	All
29.	Rusk	Big Weirgor Creek	All−Class III Portion
		Main Creek	Rusk County Highway P to Inlet of Holcombe Flowage
		Soft Maple Creek	SEG 2: Rusk County Highway “F” to Confluence with Chippewa River
30.	Rusk, Taylor & Chippewa	Jump River	From Village of Jump River downstream to Holcombe Flowage
31.	Sauk	Beaver Creek (Trib to Dell Creek)	All
		Camels Creek (Trib to Dell Creek)	All
		Dell Creek	All
31m.	Sawyer	Couderay River	SEG 2: Dam at Grimh Flowage to Confluence with Chippewa River
32.	Shawano	Kroenke Creek	Class II Portion
		Red River	From Lower Red Lake Dam to Wolf River
		West Br. Red River	Class II Portion

33.	Sheboygan	Ben Nutt Creek	Class II Portion to Junction with Mill Creek
34.	St. Croix	Apple River	From NSP plant below CTH I to Mouth
		Cady Creek	All
		Willow River	Extend Class II Portion into Delta in Lake Mallileau
35.	St. Croix & Pierce	St. Croix River	From No. Boundary of Hudson City limits to the river mouth in Pierce Co.
35m.	Taylor & Price	Silver Creek	SEG 2: Westboro Sanitary District Outfall to Confluence with South Fork Jump River
36.	Trempealeau	Buffalo River	From Hwy 53 to Strum Pond
37.	Vernon	Bishop Branch	All
		Cheyenne Valley Creek	All
		Coon Creek	From La Crosse county line to Chaseburg
		Frohock Valley Creek	All
		Hornby Creek	All
		Reads Creek	All
		Tainter Creek	All
38.	Vilas	Manitowish River	From Rest Lake Dam downstream to Iron County line
38m.	Vilas & Oneida	Wisconsin River	SEG 2: State Highway 70 to Inlet at Rainbow Flowage (Oneida County Line)
			SEG 3: Outlet of Rainbow Flowage (Oneida County Highway “D” to Inlet of Rhinelander Flowage (T37N R8E S8 SE¼NE¼)
39.	Washington	E. Branch Milwaukee R.	From Long Lake outlet to STH 28
40.	Waukesha	Genesee Creek	Above STH 59
		Mukwonago River	From Eagle Springs Lake to Upper Phantom Lake
		Oconomowoc River	From below North Lake to Okauchee Lake
41.	Waupaca	Blake Brook & Branches	Class II Portion
		Little Wolf River	From junction with Wolf River upstream to Manawa Dam
		Waupaca River	Class II portion
42.	Waupaca & Shawano	Embarrass River	From Wolf River upstream to dam at Pella
43.	Waushara	Lower Pine River	From below Wild Rose Mill pond to dam at Poy Sippi

(2) The waters identified in sub. (1) may not be lowered in quality except as provided in ch. NR 207.

(3) Surface waters, or portions thereof, may be added to, or deleted from, the exceptional resource waters designation through the rule making process under the provisions of ch. 227, Stats., and s. NR 2.03.

History: Cr. Register, February, 1989, No. 398, eff. 3−1−89; cr. (1) (c), Register, July, 1989, No. 403, eff. 8−1−89; cr. (1) (d), Register, May, 1993, No. 449, eff. 6−1−93; CR 05−105: renum. (1) (d) 1. to be 1t., cr. 1g., 1r., 15m., 25m., 26c., 26n., 26r., 26w., 31m., 35m., and 38m., am. 29., Register November 2006 No. 611, eff. 12−1−06.

NR 102.12 Great Lakes system. (1) The Great Lakes system includes all the surface waters within the drainage basin of the Great Lakes.

(2) For the purpose of administering ch. NR 207 and consistent with chs. NR 105 and 106, the waters identified in sub. (1) are to be protected from the impacts of persistent, bioaccumulating toxic substances by avoiding or limiting to the maximum extent practicable increases in these substances.

(3) The waters of the Lake Superior basin shall be managed to prevent any new or increased discharges of the following pollutants: DDT, DDE and metabolites, chlordane, toxaphene, hexachlorobenzene, 2,3,7,8 TCDD, octachlorostyrene, mercury and PCB's. For purposes of administering ch. NR 207, new or increased discharges of these pollutants shall be prohibited unless the applicant certifies at time of application, that the new or increased discharge is necessary after utilization of best technology in process or control using waste minimization, pollution prevention, municipal pretreatment programs, material substitution or other means of commercially available technologies which have demonstrated capability for similar applications.

History: Cr. Register, February, 1989, No. 398, eff. 3−1−89; r. and recr. (1), am. (2), Register, August, 1997, No. 500, eff. 9−1−97; CR 05−089: cr. (3) Register July 2006 No. 607, eff. 8−1−06.

NR 102.13 Fish and aquatic life waters. All surface waters not included in s. NR 102.05 (1) (b) 1., 2., 3. or 5. are fish and aquatic life waters.

History: Cr. Register, February, 1989, No. 398, eff. 3−1−89.

NR 102.14 Taste and odor criteria. (1) At certain concentrations, substances may not be toxic to humans, but may impart undesirable taste or odor to water or aquatic organisms ingested by humans. The taste and odor criterion is derived to prevent substances from concentrating in surface waters or accumulating in aquatic organisms to a level which results in undesirable tastes or odors to human consumers.

(2) The taste and odor criterion is derived as follows:

(a) For substances which impart tastes and odors to waters, the taste and odor criterion shall equal that threshold concentration (TC_w) below which objectionable tastes or odors to human consumers do not occur. Threshold concentrations for substances imparting tastes and odors to water are listed in Table 1.

Table 1
Threshold Concentrations (TC_w) for Substances Causing Taste and Odor in Water

Substance	Threshold Concentration (ug/L)1
Acenaphthene	20
Chlorobenzene	20
2−Chlorophenol	0.1
3−Chlorophenol	0.1
4−Chlorophenol	0.1
Copper	1000
2,3−Dichlorophenol	0.04
2,4−Dichlorophenol	0.3
2,5−Dichlorophenol	0.5
2,6−Dichlorophenol	0.2
3,4−Dichlorophenol	0.3
2,4−Dimethylphenol	400
Hexachlorocyclopentadiene	1
2−Methyl−4−Chlorophenol	1800
3−Methyl−4−Chlorophenol	3000
3−Methyl−6−Chlorophenol	20
Nitrobenzene	30
Pentachlorophenol	30
Phenol	300
2,3,4,6−Tetrachlorophenol	1
2,4,5−Trichlorophenol	1
2,4,6−Trichlorophenol	2
Zinc	5000

[1] A threshold concentration expressed in micrograms per liter (ug/L) can be converted to milligrams per liter (mg/L) by dividing the threshold concentration by 1000.

(b) For substances which impart tastes or odors to aquatic organisms, the taste and odor criterion shall be calculated as follows:

$$TOC = \frac{TC^1}{BAF}$$

Where:

TOC = Taste and odor criterion in milligrams per liter (mg/L).

TC = Threshold concentration in milligrams of substance per kilogram of wet tissue weight (mg/kg) of the aquatic organism being consumed below which undesirable taste and odor is not detectable to human consumers as derived in par. (d).

BAF = Aquatic life bioaccumulation factor with units of liter per kilogram (L/kg) as derived in s. NR 105.10.

(c) The lower of the taste and odor criteria derived as specified in pars. (a) and (b) is applicable to surface waters classified as public water supplies. The taste and odor criteria derived as specified in par. (b) are applicable to cold water and warm water sport fish communities.

(d) Threshold concentrations for substances imparting tastes or odors to water (TC_w) other than those listed in Table 1 and threshold concentrations for substances imparting tastes or odors to aquatic organisms (TC_f) shall be selected by the department using its best professional judgment.

History: Cr. Register, February, 1989, No. 398, eff. 3−1−89; am. (2) (b) and (c), Register, August, 1997, No. 500, eff. 9−1−97.

APPENDIX 4.3.7.1-2 Chapter NR 105 Surface Water Quality Criteria and Secondary Values for Toxic Substances

Chapter NR 105

SURFACE WATER QUALITY CRITERIA AND SECONDARY VALUES FOR TOXIC SUBSTANCES

NR 105.01 Purpose. The purpose of this chapter is to establish water quality criteria, and methods for developing criteria and secondary values for toxic substances to protect public health and welfare, the present and prospective use of all surface waters for public and private water supplies, and the propagation of fish and aquatic life and wildlife. This chapter also establishes how bioaccumulation factors used in deriving water quality criteria and secondary values for toxic and organoleptic substances shall be determined. Water quality criteria are a component of surface water quality standards. This chapter and chs. NR 102 to 104 constitute quality standards for the surface waters of Wisconsin.

History: Cr. Register, February, 1989, No. 398, eff. 3−1−89.; am. Register, August, 1997, No. 500, eff. 9−1−97.

NR 105.02 Applicability. The provisions of this chapter are applicable to surface waters of Wisconsin as specified in chs. NR 102 to 104 and in this chapter.

(1) SITE SPECIFIC CRITERIA AND SECONDARY VALUES. A criterion contained within this chapter or a secondary value calculated pursuant to this chapter may be modified for a particular surface water segment or body. A criterion or secondary value may be modified if specific information is provided which shows that the data used to derive the criterion or secondary value do not apply and if additional information is provided to derive a site−specific criterion or secondary value. Site−specific criteria are intended to be applicable to a specific surface water segment. Criteria may be modified for site−specific considerations according to the USEPA "Water Quality Standards Handbook" Second Edition, revised 1994. Any criterion modified for site−specific conditions shall be promulgated in ch. NR 104 before it can be applied on a site−specific basis. Site−specific modifications of criteria and secondary values shall be consistent with the procedures described in 40 CFR Part 132, Appendix F, Procedure 1: Site−specific modifications to criteria and values. 40 CFR Part 132, Appendix F, Procedure 1 as stated on September 1, 1997 is incorporated by reference.

Note: Copies of 40 CFR Part 132 Appendix F, Proc. 1 are available for inspection in the offices of the department of natural resources, secretary of state and the legislative reference bureau, Madison, WI or may be purchased from the superintendent of documents, US government printing office, Washington, D.C. 20402.

(2) STATEWIDE CRITERIA. (a) The department may promulgate a less stringent criterion or remove a criterion from this chapter when the department determines that the previously promulgated criterion is more stringent than necessary, or unnecessary for the protection of humans, fish and other aquatic life or wildlife. The modification shall assure that the designated uses are protected and water quality standards continue to be attained.

(b) The department may promulgate a more stringent criterion in this chapter when the department determines that the previously promulgated criterion is inadequate for the protection of humans, fish and other aquatic life or wildlife.

(3) DETERMINATION OF SECONDARY VALUES FOR EFFLUENT LIMITATIONS. If a discharge contains a toxic substance, and if data to calculate a water quality criterion for that substance are not available, then, on a case−by−case basis, the department may calculate a secondary value as defined in this chapter and establish an effluent limitation for the toxic substance if the conditions contained in s. NR 106.05 (1) (b) are met.

History: Cr. Register, February, 1989, No. 398, eff. 3−1−89; am. (1) and (2), cr. (3), Register, August, 1997, No. 500, eff. 9−1−97.

NR 105.03 Definitions. (1) "Acute toxicity" means the ability of a substance to cause mortality or an adverse effect in an organism which results from a single or short−term exposure to the substance.

(2) "Acute toxicity criterion" or "ATC" means the maximum daily concentration of a substance which ensures adequate protection of sensitive species of aquatic life from the acute toxicity of that substance and will adequately protect the designated fish and aquatic life use of the surface water if not exceeded more than once every 3 years. If the available data indicate that one or more life stages of a particular species are more sensitive to a substance than other life stages of the same species, the ATC shall represent the acute toxicity of the most sensitive life stage.

(3) "Adequate protection" means a level of protection which ensures survival of a sufficient number of healthy individuals in a population of aquatic species to provide for the continuation of an unreduced population of these species.

(4) "Adverse effect" means any effect resulting in a functional impairment or a pathological lesion, or both, which may affect the performance of the whole organism, or which contributes to a reduced ability to respond to an additional challenge. Adverse effects include toxicant−induced mutagenic, teratogenic, or carcinogenic effects or impaired, developmental, immunological or reproductive effects.

(5) "Baseline BAF" means for organic chemicals, a bioaccumulation factor normalized to 100% lipid that is based on the concentration of a freely dissolved chemical in the ambient water and takes into account the partitioning of the chemical within the organism. For inorganic chemicals, a bioaccumulation factor is based on the wet weight of the tissue.

(6) "Baseline BCF" means for organic chemicals, a bioconcentration factor normalized to 100% lipid that is based on the concentration of freely dissolved chemical in the ambient water and takes into account the partitioning of the chemical within the organism. For inorganic chemicals, a bioconcentration factor is based on the wet weight of the tissue.

(7) "Bioaccumulation" means the net accumulation of a substance by an organism as a result of uptake from all environmental sources.

(8) "Bioaccumulation factor" or "BAF" means the ratio (in L/kg) of a substance's concentration in the tissue of an aquatic organism to its concentration in the ambient water, in situations where both the organism and its food are exposed to the substance and where the ratio does not change substantially over time.

(9) "Bioaccumulative chemical of concern" or "BCC" means any substance that has the potential to cause adverse effects which, upon entering the surface waters, accumulates in aquatic organisms by a human health or wildlife bioaccumulation factor greater than 1000.

(10) "Bioconcentration" means the net accumulation of a substance by an aquatic organism as a result of uptake directly from the ambient water through its gill membranes or other external body surfaces.

(11) "Bioconcentration factor" or "BCF" means the ratio (in L/kg) of a substance's concentration in the tissue of an aquatic organism to its concentration in the ambient water, in situations where the organism is exposed through the water only and where the ratio does not change substantially over time.

(12) "Biota−sediment accumulation factor" or "BSAF" means the ratio (in kg of organic carbon/kg of lipid) of a substance's lipid−normalized concentration in the tissue of an aquatic organism to its organic carbon−normalized concentration in surface sediment, in situations where the ratio does not change substantially over time, both the organism and its food are exposed, and where the surface sediment is representative of the average surface sediment in the vicinity of the organism.

(13) "Carcinogen" means any substance listed in Table 9 or a substance for which the induction of benign or malignant neoplasms has been demonstrated in:

(a) Humans; or

(b) Two mammalian species; or

(c) One mammalian species, independently reproduced; or

(d) One mammalian species, to an unusual degree with respect to increased incidence, shortened latency period, variety of site, tumor type, or decreased age at onset; or

(e) One mammalian species, supported by reproducible positive results in at least 3 different types of short−term tests which are indicative of potential oncogenic activity.

(14) "Chronic toxicity" means the ability of a substance to cause an adverse effect in an organism which results from exposure to the substance for a time period representing that substantial portion of the natural life expectancy of that organism.

(15) "Chronic toxicity criterion" or "CTC" means the maximum 4−day concentration of a substance which ensures adequate protection of sensitive species of aquatic life from the chronic toxicity of that substance and will adequately protect the designated fish and aquatic use of the surface water if not exceeded more than once every 3 years.

(16) "Depuration" means the loss of a substance from an organism as a result of any active or passive process.

(17) "EC_{50}" means a concentration of a toxic substance which causes an adverse effect including mortality in 50% of the exposed organisms in a given time period.

(18) "Food−chain multiplier" or "FCM" means the ratio of a BAF to an appropriate BCF.

(19) "LC_{50}" means a concentration of a toxic substance which is lethal to 50% of the exposed organisms in a given time period.

(20) "LD_{50}" means a dose of a toxic substance which is lethal to 50% of the exposed organisms in a given time period.

(21) "Lipid−soluble substance" means a substance which is soluble in nonpolar organic solvents and which tends to accumulate in the fatty tissues of an organism exposed to the substance.

(22) "Lowest observable adverse effect level" or "LOAEL" means the lowest tested concentration that caused an adverse effect in comparison with a control when all higher test concentrations caused the same effect.

(23) "No observable adverse effect level" or "NOAEL" means the highest tested concentration that did not cause an adverse effect in comparison with a control when no lower test concentration caused an adverse effect.

(24) "Octanol/water partition coefficient" or "K_{OW}" means the ratio of the concentration of a substance in the octanol phase to its concentration in the aqueous phase in an equilibrated 2−phase octanol−water system. For log K_{OW}, the log of the octanol−water partition coefficient is a base 10 logarithm.

(25) "Secondary value" means a temporary value that represents the concentration of a substance which ensures adequate protection of sensitive species of aquatic life, wildlife or human health from the toxicity of that substance and will adequately protect the designated use of the surface water until database requirements are fulfilled to calculate a water quality criterion.

(26) "Steady state" means that an equilibrium condition in the body burden of a substance in an organism has been achieved and is assumed when the rate of depuration of a substance matches its rate of uptake.

(27) "Toxic substance" means a substance or mixture of substances which through sufficient exposure, or ingestion, inhalation or assimilation by an organism, either directly from the environment or indirectly by ingestion through the food chain, will cause death, disease, behavioral or immunological abnormalities, cancer, genetic mutations, or developmental or physiological malfunctions, including malfunctions in reproduction or physical deformations, in such organisms or their offspring.

(28) "Trophic level" means a functional classification of taxa within a community that is based on feeding relationships (e.g., aquatic plants comprise the first trophic level, herbivores comprise the second, small fish comprise the third, predatory fish the fourth, etc.).

(29) "Uptake" means the acquisition of a substance from the environment by an organism as a result of any active or passive process.

(30) "Water quality parameter" means one of the indicators available for describing the distinctive quality of water including, but not limited to, hardness, pH, or temperature.

History: Cr. Register, February, 1989, No. 398, eff. 3−1−89; renum. (5) to (19) to be (11), (13) to (15), (17), (19) to (24), (26), (27) and (30), cr. (5) to (7), (9), (10), (12), (16), (18), (25), (28) and (29) and am. (8), (11) and (24), Register, August, 1997, No. 500, eff. 9−1−97.

NR 105.04 Determination of adverse effects. **(1)** Substances may not be present in surface waters at concentrations which adversely affect public health or welfare, present or prospective uses of surface waters for public or private water supplies, or the protection or propagation of fish or other aquatic life or wild or domestic animal life.

(2) A substance shall be deemed to have adverse effects on fish or other aquatic life if it exceeds any of the following more than once every 3 years:

(a) The acute toxicity criterion as specified in s. NR 105.05, or

(b) The chronic toxicity criterion as specified in s. NR 105.06.

(c) The acute and chronic toxicity criteria for ammonia nitrogen shall be determined on a case−by−case basis by the department for the appropriate aquatic life use category.

(3) A substance shall be deemed to have adverse effects on wildlife if it exceeds the wildlife criterion as specified in s. NR 105.07.

(4) A substance shall be deemed to have adverse effects on public health and welfare if it exceeds any of the following:

(a) The human threshold criterion as specified in s. NR 105.08; or

(b) The human cancer criterion as specified in s. NR 105.09; or

(c) The taste and odor criterion as specified in s. NR 102.14.

(5) A substance shall be deemed to have adverse effects or the reasonable potential to have adverse effects on aquatic life, wildlife or human health, if it exceeds a secondary value determined according to the procedures in ss. NR 105.05 to 105.08.

(6) The determination of the criteria or secondary values for substances as calculated under ss. NR 105.05 to 105.09 shall be based upon the available scientific data base. References to be used in obtaining scientific data may include, but are not limited to:

(a) "Water Quality Criteria 1972", EPA−R3−73−033, National Academy of Sciences, National Academy of Engineering, United States Government Printing Office, Washington, D.C., 1974.

(b) "Quality Criteria for Water", EPA−440/9−76−003, United States Environmental Protection Agency, Washington, D.C., 1976.

(c) October 1980 and January 1985 U.S. Environmental Protection Agency (EPA) ambient water quality criteria documents.

(d) "Public Health Related Groundwater Standards: Summary of Scientific Support Documentation for NR 140.10", Wisconsin Department of Health and Social Services, Division of Health, September 1985.

(e) "Public Health Related Groundwater Standards − 1986: Summary of Scientific Support Documentation for NR 140.10", Wisconsin Department of Health and Social Services, Division of Health, June 1986.

(f) Health advisories published on March 31, 1987 by EPA, Office of Drinking Water.

(g) Any other reports, documents or information published by EPA or any other federal agency.

(h) Any other reports, documents or information that the department, deems to be reliable.

(7) When reviewing any of the references in sub. (6) to determine the effect of a substance, the department:

(a) Shall use scientific studies on the toxicity of a substance to fish and other aquatic life and wild and domestic animals, indigenous to the state;

(b) May use scientific studies on the toxicity of a substance to fish or other aquatic life, plant, mammalian, avian, and reptilian species not indigenous to the state; and

(c) May consider biomonitoring information to determine the aquatic life toxicity of complex mixtures of toxic substances in addition to the chemical specific criteria specified in this chapter.

History: Cr. Register, February, 1989, No. 398, eff. 3−1−89; am. (3), renum. (5) and (6) to be (7) and am. (6) (intro.) and (7) (intro.), cr. (5), Register, August, 1997, No. 500, eff. 9−1−97.

NR 105.05 Acute toxicity criteria and secondary acute values for aquatic life. (1) MINIMUM DATABASE FOR ACUTE CRITERION DEVELOPMENT. (a) To derive an acute toxicity criterion for aquatic life, the minimum information required shall be the results of acceptable acute toxicity tests with one or more species of freshwater animal in at least 8 different families provided that of the 8 species:

1. At least one is a salmonid fish in the family Salmonidae in the class Osteichthyes,

2. At least one is a non−salmonid fish from another family in the class Osteichthyes, preferably a commercially or recreationally important warmwater species,

3. At least one is a planktonic crustacean (e.g., cladoceran, copepod),

4. At least one is a benthic crustacean (e.g., ostracod, isopod, amphipod, crayfish),

5. At least one is an insect (e.g., mayfly, dragonfly, damselfly, stonefly, caddisfly, mosquito, midge),

6. At least one is a fish or amphibian from a family in the phylum Chordata not already represented in one of the other subdivisions.

7. At least one is an organism from a family in a phylum other than Arthropoda or Chordata (e.g., Rotifera, Annelida, Mollusca), and

8. At least one is an organism from a family in any order of insect or any other phylum not already represented in subds. 1. to 7.

9. If all 8 of the families in subds. 1. to 8. are represented, an acute toxicity criterion may be developed for surface waters classified as cold water using information on all of those families. If an acute toxicity criterion is developed for surface waters classified as cold water, acute toxicity criteria may also be developed for any of the surface water classifications in s. NR 102.04 (3) (b) to (e) using the procedure in sub. (2) or (3) and data on families in subds. 1. to 8. which are representative of the aquatic life communities associated with those classifications. For each substance, in no case may the criterion for a lower quality fish and aquatic life subcategory as defined in s. NR 102.04 be less than the criterion for a higher quality fish and aquatic life subcategory.

10. For a substance, if all of the families in subds. 1. to 8. are not represented, an acute toxicity criterion may not be developed for that substance. Instead, any available data may be used to develop a secondary acute value (SAV) for that substance according to s. NR 105.02 (3) and sub.(4).

(b) The acceptability of acute toxicity test results shall be judged according to the guidelines in section IV of the United States environmental protection agency's 1985 "Guidelines for Deriving National Numerical Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses" or 40 CFR Part 132, Appendix A. II, IV and V, as stated on September 1, 1997, is incorporated by reference.

Note: Copies of 40 CFR Part 132, Appendix A Sections II, IV and V are available for inspection in the offices of the department of natural resources, secretary of state and the legislative reference bureau, Madison, WI or may be purchased from the superintendent of documents, US government printing office, Washington, D.C. 20402.

(2) ACUTE TOXICITY CRITERIA FOR SUBSTANCES WITH TOXICITY UNRELATED TO WATER QUALITY PARAMETERS. If the acute toxicity of a substance has not been adequately shown to be related to a water quality parameter (i.e., hardness, pH, temperature, etc.), the acute toxicity criterion (ATC) is calculated using the procedures specified in this subsection.

(a) 1. For each species for which at least one acute value is available, the species mean acute value (SMAV) is calculated as the geometric mean of all acceptable acute toxicity tests using the guidelines in sub. (1) (b).

2. For each genus for which one or more SMAVs are available, the genus mean acute value (GMAV) is calculated as the geometric mean of the SMAVs available for the genus.

(b) The GMAVs are ordered from high to low.

(c) Ranks (R) are assigned to the GMAVs from 1 for the lowest to N for the highest. If 2 or more GMAVs are identical, successive ranks are arbitrarily assigned.

(d) The cumulative probability (P) is calculated for each GMAVs as P=R/(N + 1).

(e) The 4 GMAVs are selected which have P closest to 0.05. If there are less than 59 GMAVs, these will always be the lowest GMAVs.

(f) Using the selected GMAVs and Ps, the ATC is calculated using the following:

1. Let EV = sum of the 4 ln GMAVs,
EW = sum of the 4 squares of the ln GMAVs,
EP = sum of the 4 P values,
EPR = sum of the 4 square roots of P, and
JR = square root of 0.05.

2. $S = ((EW - (EV)^2/4)/(EP-(EPR)^2/4))^{0.5.}$

3. L = (EV − S(EPR))/4.

4. A = (JR)(S) + L.

5. Final Acute Value (FAV)= e^A.

6. ATC = FAV/2.

(g) If, for a commercially, recreationally or ecologically important species, the geometric mean of the acute values from flow−through tests in which the concentration of test material was measured is lower than the calculated ATC [FAV], then that geometric mean is used as the ATC [FAV] instead of the calculated one.

(h) Table 1 contains the acute toxicity criteria for fish and aquatic life subcategories listed in s. NR 102.04 (3) that are calculated using the procedures described in this subsection for substances meeting the database requirements indicated in sub. (1) (a).

(3) ACUTE TOXICITY CRITERIA FOR SUBSTANCES WITH TOXICITY RELATED TO WATER QUALITY PARAMETERS. If data are available on a substance to show that acute toxicity to 2 or more species is similarly related to a water quality parameter (i.e., hardness, pH, temperature, etc.), the acute toxicity criterion (ATC) is calculated using the procedures specified in this subsection.

(a) For each species for which acceptable acute toxicity tests using the guidelines in sub. (1) (b) are available at 2 or more different values of the water quality parameter, a least squares regression of the acute toxicity values on the corresponding values of the water quality parameter is performed to obtain the slope of the curve that best describes the relationship. Because the most commonly documented relationship is that between hardness and acute toxicity of metals and a log−log relationship fits these data, geometric means and natural logarithms of both toxicity and water quality are used in the rest of this subsection to illustrate this method. For relationships based on other water quality parameters, no transformation or a different transformation might fit the data better, and appropriate changes shall be made as necessary throughout this subsection.

(b) For each species, the geometric mean of the available acute values (W) is calculated and then each of those acute values is divided by the mean for that species. This normalizes the acute values so that the geometric mean of the normalized values for each species individually and for any combination of species is 1.0.

(c) For each species, the geometric mean of the available corresponding water quality parameter values (X) is calculated and then each of those water quality parameter values is divided by the mean for that species. This normalizes the water quality parameter values so that the geometric mean of the normalized values for each species individually and for any combination of species is 1.0.

(d) A least squares regression of all the normalized acute values on the corresponding normalized values of the water quality parameter is performed to obtain the pooled acute slope (V). If the coefficient of determination, or r value, calculated from that regression is found not to be significant based on a standard F−test at a 0.05 level, then the pooled acute slope shall be set equal to zero.

(e) For each species the logarithmic intercept (Y) is calculated using the equation: Y = ln W − V(ln X).

(f) 1. For each species the species mean acute intercept (SMAI) is calculated as e^{Y}.

2. For each genus for which one or more SMAIs are available, the genus mean acute intercept (GMAI) is calculated as the geometric mean of the SMAIs available for the genus.

(g) The GMAIs are ordered from high to low.

(h) Ranks (R) are assigned to the GMAIs from 1 for the lowest to N for the highest. If 2 or more GMAIs are identical, successive ranks are arbitrarily assigned.

(i) The cumulative probability (P) is calculated for each GMAI as P=R/(N+1).

(j) The 4 GMAIs are selected which have P closest to 0.05. If there are less than 59 GMAIs, these will always be the lowest GMAIs.

(k) Using the selected GMAIs and Ps, the ATC is calculated using the following:

1. Let EV = sum of the 4 ln GMAIs,
EW = sum of the 4 squares of the ln GMAIs,
EP = sum of the 4 P values,
EPR = sum of the 4 square roots of P, and
JR = square root of 0.05.

2. $S = ((EW - (EV)^2/4) / (EP - (EPR)^2/4))^{0.5.}$

3. L = (EV − S(EPR))/4.

4. A = (JR)(S) + L.

5. Final Acute Intercept (FAI) = e^{A}.

6. Acute Criterion Intercept (ACI) = FAI/2.

(L) The acute toxicity equation (ATE) is written as:

ATC = $_{e}$(V ln(water quality parameter) + ln ACI).

The ATE shall be applicable only over the range of water quality parameters equivalent to the mean plus or minus 2 standard deviations using the entire fresh water acute toxicity data base and the water quality parameter transformation employed in par. (a). If the value at a specific location is outside of that range, the endpoint of the range nearest to that value shall be used to determine the criterion. Additional information may be used to modify those ranges. The final acute value (FAV) equals 2 times the ATC (acute toxicity criterion) calculated using the formula in this paragraph.

(m) If, for a commercially, recreationally or ecologically important species, the SMAI is lower than the calculated ACI, then that SMAI is used as the ACI instead of the calculated one.

(n) Table 2 contains the acute toxicity criteria for the fish and aquatic life subcategories listed in s. NR 102.04 (3) that are calculated using the procedures described in this subsection for substances meeting the database requirements indicated in sub. (1) (a). Table 2A contains the water quality parameter ranges calculated in par. (L).

(4) SECONDARY ACUTE VALUES. If all 8 minimum data requirements for calculating acute toxicity criteria in sub. (1) (a) are not met, secondary acute values (SAVs) shall be determined using the procedure in this subsection.

(a) In order to calculate a SAV, the database shall contain, at a minimum, a genus mean acute value (GMAV) for one of the following 3 genera in the family Daphnidae − *Ceriodaphnia sp.*, *Daphnia sp.*, or *Simocephalus sp.* To calculate a SAV, the lowest GMAV in the database is divided by the Secondary Acute Factor (SAF). The SAF is an adjustment factor corresponding to the number of satisfied minimum data requirements, listed in sub. (1) (a). SAFs are listed in Table 2B.

(b) Whenever appropriate, the effects of variable water quality parameters shall be considered when calculating a SAV, consistent with the procedures described in sub. (3).

(c) Whenever, for a commercially, recreationally or ecologically important species, the SMAV is lower than the calculated SAV, that SMAV shall be used as the SAV instead of the calculated SAV.

(5) ACUTE TOXICITY CRITERIA EXPRESSED IN THE DISSOLVED FORM. Acute water quality criteria may be expressed as a dissolved concentration. The conversion of an acute water quality criterion expressed as a total recoverable concentration, to an acute water quality criterion expressed as a dissolved concentration, the portion of the substance which will pass through a 0.45 um filter, shall be done using the equations in pars. (a) and (b). Substances which may have criteria expressed as a dissolved concentration are listed in par. (a) with corresponding conversion factors.

(a) The conversion of the water quality criterion expressed as total recoverable ($WQC_{Total\ R.}$) to the water quality criterion expressed as dissolved (WQC_D) shall be performed as follows:

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$WQC_D = (CF)(WQC_{Total\ R.})$

Where: $WQC_{Total\ R.}$ = Criteria from NR 105, Table 1 or 2.

CF = Conversion factor for total recoverable to dissolved.

Conversion factors are as follows:

Arsenic	1.000
Cadmium	0.850
Chromium (III)	0.316
Chromium (VI)	0.982
Copper	0.960
Lead	0.875
Mercury	0.850
Nickel	0.998
Selenium	0.922
Silver	0.850
Zinc	0.978

(b) The translation of the WQC_D into the water quality criterion which accounts for site−specific conditions (WQC_{TRAN}) shall be performed as follows:

$WQC_{TRAN} = (Translator)(WQC_D)$

Where: Translator (unitless) = $((M_P)(TSS) + M_D)/M_D$

M_P = Particle−bound concentration of the pollutant (ug/g) in receiving water.

M_D = Dissolved concentration of the pollutant in receiving water (ug/L).

TSS = Total Suspended Solids (g/L) concentration in receiving water.

(c) The procedures in pars. (a) and (b) may also be used for the conversion of secondary values from total recoverable to dissolved.

History: Cr. Register, February, 1989, No. 398, eff. 3−1−89; am. (1) (a) 1. to 5., (1) (b), (2) (a) to (f), (3) (a) and (f) to (L), r. and recr. (1) (a) 6., cr. (1) (a) 7. to 10., (4) and (5), Register, August, 1997, No. 500, eff. 9−1−97; CR 03−050: am. (3) (L) and (m) Register February 2004 No. 578, eff. 3−1−04.

NR 105.06 Chronic toxicity criteria and secondary chronic values for fish and aquatic life. **(1)** MINIMUM DATABASE FOR CHRONIC CRITERION DEVELOPMENT. (a) To derive a chronic toxicity criterion for aquatic life, the minimum information required shall be results of acceptable chronic toxicity tests with one or more species of freshwater animal in at least 8 different families provided that of the 8 species:

1. At least one is a salmonid fish, in the family Salmonidae in the class Osteichthyes,

2. At least one is a non−salmonid fish, from another family in the class Osteichthyes, preferably a commercially or recreationally important warmwater species,

3. At least one is a planktonic crustacean (e.g., cladoceran, copepod),

4. At least one is a benthic crustacean (e.g., ostracod, isopod, amphipod, crayfish),

5. At least one is an insect (e.g., mayfly, dragonfly, damselfly, stonefly, caddisfly, mosquito, midge),

6. At least one is a fish or amphibian from a family in the phylum Chordata not already represented in one of the other subdivisions,

7. At least one is an organism from a family in a phylum other than Arthropoda or Chordata (e.g., Rotifera, Annelida, Mollusca), and

8. At least one is an organism from a family in any order of insect or any other phylum not already represented in subds. 1. to 7.

9. If all 8 of the families in subds. 1. to 8. are represented, a chronic toxicity criterion may be developed for surface waters classified as cold water using information on all of those families. If a chronic toxicity criterion is developed for surface waters classified as cold water, chronic toxicity criteria may also be developed for any of the surface water classifications in s. NR 102.04 (3) (b) to (e) using the procedure in sub. (2) or (3) and data on families in subds. 1. to 8. which are representative of the aquatic life communities associated with those classifications. For each substance, in no case may the criterion for a lower quality fish and aquatic life subcategory as defined in s. NR 102.04 be less than the criterion for a higher quality fish and aquatic life subcategory.

10. For a substance, if all the families in subds. 1. to 8. are not represented, acute−chronic ratios as calculated in sub. (5) may be used to generate the chronic toxicity values necessary to calculate a chronic toxicity criterion.

11. For a substance, if all of the families in subds. 1. to 8. are not represented, a chronic toxicity criterion may not be developed for that substance except as provided in subd. 10. Instead, any available data may be used to develop a secondary acute value (SAV) for that substance according to sub. (4).

(b) The acceptability of chronic toxicity test results shall be judged according to the guidelines in section VI of the United States environmental protection agency's 1985 "Guidelines for Deriving National Numerical Water Quality Criteria for the Protection of Aquatic Organisms and Their Uses" or 40 CFR Part 132 Appendix A, sections VI and VII as stated on September 1, 1997, is incorporated by reference.

Note: Copies of 40 CFR Part 132, Appendix A, Sections VI and VII are available for inspection in the offices of the department of natural resources, secretary of state and the legislative reference bureau, Madison, WI or may be purchased from the superintendent of documents, US government printing office, Washington, D.C. 20402.

(2) CALCULATION OF A CHRONIC CONCENTRATION. A chronic concentration is obtained by calculating the geometric mean of the chronic lowest observable adverse effect level and the chronic no observable adverse effect level.

(3) CHRONIC TOXICITY CRITERIA FOR SUBSTANCES WITH TOXICITY UNRELATED TO WATER QUALITY PARAMETERS. If the chronic toxicity of a substance has not been adequately shown to be related to a water quality parameter, i.e., hardness, pH, temperature, etc., the chronic toxicity criterion (CTC) is calculated using the procedures specified in this subsection.

(a) 1. For each species for which at least one chronic value is available, the species mean chronic value (SMCV) is calculated as the geometric mean of all acceptable chronic toxicity tests using the guidelines in sub. (1) (b).

2. For each genus for which one or more SMCVs are available, the genus mean chronic value (GMCV) is calculated as the geometric mean of the SMCVs available for the genus.

(b) The GMCVs are ordered from high to low.

(c) Ranks (R) are assigned to the GMCVs from 1 for the lowest to N for the highest. If 2 or more GMCVs are identical, successive ranks are arbitrarily assigned.

(d) The cumulative probability (P) is calculated for each GMCVs as P=R/(N + 1).

(e) The 4 GMCVs are selected which have P closest to 0.05. If there are less than 59 GMCVs, these will always be the lowest GMCVs.

(f) Using the selected GMCVs and Ps, the final chronic value (FCV) is calculated using the following:

1. Let EV = sum of the 4 ln GMCVs,
EW = sum of the 4 squares of the ln GMCVs,
EP = sum of the 4 P values,
EPR = sum of the 4 square roots of P, and
JR = square root of 0.05.

2. $S = ((EW - (EV)^2 /4)/(EP-(EPR)^2/4))^{0.5}$

3. L = (EV − S(EPR))/4.

4. A = (JR)(S) + L.

5. $FCV = e^A$.

(g) If, for a commercially, recreationally or ecologically important species, the geometric mean of the chronic values is lower than the calculated FCV then that geometric mean is used as the FCV instead of the calculated one.

(h) The chronic toxicity criterion (CTC) equals the lower of the FCV and the final plant value calculated using the procedure in s. NR 105.11.

(i) Table 3 contains the chronic toxicity criteria for the fish and aquatic life subcategories listed in s. NR 102.04 (3) that are calculated using the procedures described in this subsection for substances meeting the database requirements indicated in sub. (1).

(4) CHRONIC TOXICITY CRITERIA FOR SUBSTANCES WITH TOXICITY RELATED TO WATER QUALITY PARAMETERS. (a) If data are available on a substance to show that chronic toxicity to 2 or more species is similarly related to a water quality parameter (i.e., hardness, pH, temperature, etc.), the chronic toxicity criterion (CTC) is calculated using the procedures specified in this paragraph.

1. For each species for which acceptable chronic toxicity tests using the guidelines in sub. (1) (b) are available at 2 or more different values of the water quality parameter, a least squares regression of the chronic toxicity values on the corresponding values of the water quality parameter is performed to obtain the slope of the curve that best describes the relationship. Because the most commonly documented relationship is that between hardness and the chronic toxicity of metals and a log−log relationship fits these data, geometric means and natural logarithms of both toxicity and water quality are used in the rest of this subsection to illustrate this method. For relationships based on other water quality parameters, no transformation or a different transformation might fit the data better, and appropriate changes shall be made as necessary throughout this subsection.

2. For each species, the geometric mean of the available chronic values (W) is calculated and then each of the chronic values is divided by the mean for that species. This normalizes the chronic values so that the geometric mean of the normalized values for each species individually and for any combination of species is 1.0.

3. For each species, the geometric mean of the available corresponding water quality parameter values (X) is calculated and then each of the water quality parameter values is divided by the mean for that species. This normalizes the water quality parameter values so that the geometric mean of the normalized values for each species individually and for any combination of species is 1.0.

4. A least squares regression of all the normalized chronic values on the corresponding normalized values of the water quality parameter is performed to obtain the pooled chronic slope (V). If the coefficient of determination, or r value, calculated from that regression is found not to be significant based on a standard F−test at a 0.05 level, then the pooled chronic slope shall be set equal to zero.

5. For each species the logarithmic intercept (Y) is calculated using the equation: $Y = \ln W - V(\ln X)$.

6. a. For each species the species mean chronic intercept (SMCI) is calculated as e^Y.

b. For each genus for which one or more SMCIs are available, the genus mean chronic intercept (GMCI) is calculated as the geometric mean of the SMCIs available for the genus.

7. The GMCIs are ordered from high to low.

8. Ranks (R) are assigned to the GMCIs from 1 for the lowest to N for the highest. If 2 or more GMCIs are identical, successive ranks are arbitrarily assigned.

9. The cumulative probability (P) is calculated for each GMCI as $P=R/(N + 1)$.

10. The 4 GMCIs are selected which have P closest to 0.05. If there are less than 59 GMCIs, these will always be the lowest GMCIs.

11. Using the selected GMCIs and Ps, the final chronic value (FCV) is calculated using the following:

a. Let EV = sum of the 4 ln GMCIs,
EW = sum of the 4 squares of the ln GMCIs,
EP = sum of the 4 P values,
EPR = sum of the 4 square roots of P, and
JR = square root of 0.05.

b. $S = ((EW-(EV)^2/4)/(EP-(EPR)^2/4))^{0.5}$

c. $L = (EV - S(EPR))/4$.

d. $A = (JR)(S) + L$.

e. Final Chronic Intercept (FCI) = e^A.

12. The final chronic equation (FCE) is written as:

$FCV = _e(V \ln(\text{water quality parameter}) + \ln \text{FCI})$.

The FCE shall be applicable only over the range of water quality parameters equivalent to the mean ± 2 standard deviations using the entire freshwater chronic toxicity data base and the water quality parameter transformation employed in subd. 1. If the value at a specific location is outside of that range, the endpoint of the range nearest to that value shall be used to determine the criterion. Additional information may be used to modify those ranges.

13. If, for a commercially, recreationally or ecologically important species, the SMCI is lower than the calculated FCI, then that SMCI is used as the FCI instead of the calculated one.

(b) At a value of the water quality parameter, the chronic toxicity criterion (CTC) equals the lower of the FCV and the final plant value calculated using the procedure in s. NR 105.11.

(c) Table 4 contains the chronic toxicity criteria for the fish and aquatic life subcategories listed in s. NR 102.04 (3) that are calculated using the procedures described in this subsection for substances meeting the database requirements indicated in sub. (1). Table 4A contains the water quality parameter ranges calculated in par. (a) 1.

(5) ACUTE−CHRONIC RATIOS. (a) The acute−chronic ratio is used to estimate the chronic toxicity of a substance to fish or other aquatic species when the database of sub. (1) (a) is not satisfied.

(b) The acute−chronic ratio for a species equals the acute concentration from data considered under s. NR 105.05 (1) divided by the chronic concentration from data calculated under sub. (1), subject to the following conditions:

1. If the acute toxicity of a substance is related to any water quality parameter, the acute−chronic ratio shall be based on acute and chronic toxicity data obtained from organisms exposed to test water with similar, if not identical, values of those water quality parameters. Preference under this paragraph shall be given to data from acute and chronic tests done by the same author or reference in order to increase the likelihood of comparable test conditions.

2. If the acute and chronic toxicity data indicate that the acute−chronic ratio varies with changes in the values of the water quality parameters, the acute−chronic ratio used at specified values of the water quality parameters shall be based on the ratios at values closest to that specified.

3. If the acute toxicity of a substance is unrelated to water quality parameters, the acute−chronic ratio may be derived from any acute and chronic test on a species regardless of the similarity in values of those parameters. Preference under this paragraph shall be given to data from acute and chronic tests done by the same author or reference to increase the likelihood of comparable test conditions.

(c) A final chronic value shall be calculated for a substance under this subsection only if at least one acute−chronic ratio is available for at least one species of aquatic animal in at least 3 different families, provided that of the 3 species, one is a fish, one is an invertebrate, and the third is a relatively sensitive freshwater species on an acute toxicity basis. The other 2 may be saltwater species.

(d) The geometric mean acute−chronic ratio is calculated for each species using the available acute−chronic ratios for that species. That mean ratio shall be called the species mean acute−chronic ratio (SMACR).

(e) For a given substance, if the SMACR appears to increase or decrease as the species or genus mean acute values (SMAVs or GMAVs) calculated for that substance using the procedure described in s. NR 105.05 increase, the final acute−chronic ratio (FACR) shall be equal to the geometric mean of the SMACRs for species with SMAVs closest to the final acute value.

(f) For a given substance, if no trend is apparent regarding changes in SMACRs and GMAVs, the FACR shall be equal to the geometric mean of all SMACRs available for that substance.

(g) For a given substance, the final chronic value (FCV) shall be equal to the final acute value (FAV) divided by the final acute−chronic ratio (FACR). The chronic toxicity criterion shall be equal to the lower of the FCV and the final plant value as calculated using the procedure in s. NR 105.11, if available.

(h) Chronic toxicity criteria for the fish and aquatic life subcategories listed in s. NR 102.04 (3) that are calculated using acute−chronic ratios are listed in Table 5 for substances with acute toxicity unrelated to water quality parameters and in Table 6 for substances with acute toxicity related to water quality parameters. Equations listed in Table 6 are applicable over the same range of water quality parameters as contained in Table 2A.

(6) SECONDARY CHRONIC VALUES. If all 8 minimum data requirements for calculating FCVs in sub. (1) (a) are not met for a substance, secondary chronic values (SCVs) shall be calculated for that substance using the procedure in this subsection.

(a) If any one of the combinations of information in subds. 1. to 3. is available, a SCV may be calculated. To calculate a SCV for a substance, the acute value from subds. 1. to 3. is divided by the applicable acute−chronic ratio in the same subdivision.

1. Calculate a FAV using the procedure in s. NR 105.05 (2) and divide it by a secondary acute−chronic ratio (SACR) using the procedure in sub. (7).

2. Calculate a SAV using the procedure in s. NR 105.05 (4) and divide it by a final acute−chronic ratio (FACR) using the procedure in sub. (5).

3. Calculate a SAV using the procedure in s. NR 105.05 (4) and divide it by a SACR using the procedure in sub. (7).

(b) If appropriate, the SCV shall be made a function of a water quality characteristic in a manner similar to that described in sub. (4) (a).

(c) If, for a commercially, recreationally or ecologically important species, the SMCV is lower than the calculated SCV, that SMCV shall be used as the SCV instead of the calculated SCV.

(d) If there is an FPV available using the procedure in s. NR 105.11 which is lower than the calculated SCV, that FPV shall be used as the SCV instead of the calculated SCV.

(7) SECONDARY ACUTE−CHRONIC RATIOS. (a) If a FACR cannot be calculated using the procedure in sub. (5) because SMACRs are not available for a fish, an invertebrate or an acutely sensitive freshwater species, a secondary acute−chronic ratio (SACR) may be calculated using the procedure in this subsection.

(b) The SACR shall be equal to the geometric mean of 3 acute−chronic ratios. Those ratios consist of the SMACRs available for the species in sub. (5) (c). When SMACRs are not available for the species in par. (a), the default acute−chronic ratio to be used is 18. Use of a SACR will result in the calculation of a secondary chronic value.

(8) CHRONIC TOXICITY CRITERIA EXPRESSED IN THE DISSOLVED FORM. Chronic water quality criteria may be expressed as a dissolved concentration. The conversion of a chronic water quality criterion expressed as a total recoverable concentration to a chronic water quality criterion expressed as a dissolved concentration, the portion of the substance which will pass through a 0.45 um filter, shall be done using the equations in pars. (a) and (b). Substances which may have criteria expressed as a dissolved concentration are listed in par. (a) with corresponding conversion factors.

(a) The conversion of the water quality criterion expressed as total recoverable ($WQC_{Total\ R.}$) to the water quality criterion expressed as dissolved (WQC_D) shall be performed as follows:

$$WQC_D = (CF)(WQC_{Total\ R.})$$

Where: $WQC_{Total\ R.}$ = Criteria from NR 105, Table 5 or 6.
CF = Conversion factor for total recover−able to dissolved.

Conversion factors are as follows:

Arsenic	1.000
Cadmium	0.850
Chromium (III)	0.860
Chromium (VI)	0.962
Copper	0.960
Lead	0.792
Nickel	0.997
Selenium	0.922
Zinc	0.986

(b) The translation of the WQC_D into the water quality criterion which accounts for site−specific conditions (WQC_{TRAN}) shall be performed as follows:

$$WQC_{TRAN} = (Translator)(WQC_D)$$

Where: Translator (unitless) = $((M_P)(TSS) + M_D)/M_D$

M_P = Particle−bound concentration of the pollutant (ug/g) in receiving water.

M_D = Dissolved concentration of the pollutant in receiving water (ug/L).

TSS = Total Suspended Solids (g/L) concentration in receiving water.

(c) The procedures in pars. (a) and (b) may also be used for the conversion of secondary values from total recoverable to dissolved.

Table 1
Acute Toxicity Criteria for Substances With Toxicity Unrelated to Water Quality
(in ug/L except where indicated)

Substance	Cold Water	Warm Water Sportfish, Warm Water Forage, and Limited Forage Fish	Limited Aquatic Life
Arsenic (+3)*	339.8	339.8	339.8
Chromium (+6)*	16.02	16.02	16.02
Mercury (+2)*	0.83	0.83	0.83
Cyanide, free	22.4	45.8	45.8
Chloride	757,000	757,000	757,000
Chlorine*	19.03	19.03	19.03
Gamma − BHC	0.96	0.96	0.96
Dieldrin	0.24	0.24	0.24
Endrin	0.086	0.086	0.12
Toxaphene	0.73	0.73	0.73
Chlorpyrifos	0.041	0.041	0.041
Parathion	0.057	0.057	0.057

Note: * − Criterion listed is applicable to the "total recoverable" form except for chlorine which is applicable to the "total residual" form.

Table 2
Acute Toxicity Criteria for Substances With Toxicity Related to Water Quality
(all in ug/L)

Water Quality Parameter: Hardness (in ppm as $CaCO_3$)

$ATC=e^{(V \text{ in hardness}) + \ln ACI)}$

Substance	V	ln ACI	ATC at Various Hardness (ppm) Levels 50	100	200
Total Recoverable Cadmium:					
Cold Water	1.147	−3.8104	1.97	4.36	9.65
Warm Water Sportfish, Warm Water Forage and Limited Forage Fish	1.147	−2.9493	4.65	10.31	22.83
Limited Aquatic Life	1.147	−1.9195	13.03	28.87	63.92
Total Recoverable Chromium (+3):					
All Surface Waters	0.819	3.7256	1022	1803	3181
Total Recoverable Copper:					
All Surface Waters	0.9436	−1.6036	8.07	15.51	29.84
Total Recoverable Lead:					
All Surface Waters	0.9662	0.2226	54.73	106.92	208.90
Total Recoverable Nickel:					
All Surface Waters	0.846	2.255	261	469	843
Total Recoverable Zinc:					
All Surface Waters	0.8745	0.7634	65.66	120.4	220.7

Water Quality Parameter: pH

$ATC = e^{(V(pH) + \ln ACI)}$

Substance	V	ln ACI	6.5	7.8	8.8
Pentachlorophenol:					
All Surface Waters	1.0054	−4.877	5.25	19.40	53.01

Table 2A
Water Quality Parameter Ranges for Substances With Acute Toxicity Related to Water Quality

Substance	Parameter	Applicable Range
Cadmium	Hardness (ppm)	6 − 457
Chromium (+3)	Hardness (ppm)	13 − 301
Copper	Hardness (ppm)	13 − 495
Lead	Hardness (ppm)	12 − 356
Nickel	Hardness (ppm)	13 − 268
Zinc	Hardness (ppm)	12 − 333
Pentachlorophenol	pH (s.u.)	6.6 − 8.8

Table 2B
Secondary Acute Factors

Number of minimum data requirements satisfied	Adjustment factor
1	21.9
2	13.0
3	8.0
4	7.0
5	6.1
6	5.2
7	4.3

Table 2C
Acute Toxicity Criteria for Ammonia With Toxicity Related to Water Quality(all in mg/L)

Cold Water (CW) Categories 1−5 are applicable only to ammonia criteria.[1]

Water Quality Parameter: pH

ATC (in mg/L) = $[A / (1 + 10^{(7.204 - pH)})] + [B /(1 + 10^{(pH - 7.204)})]$

Substance	**A**	**B**	**7.5**	**8.0**	**8.5**
Ammonia (as N) in mg/L:					
CW Category 1 & 4	0.275	39.0	13.28	5.62	2.14
CW Category 2 & 3	0.343	48.7	16.59	7.01	2.67
CW Category 5, Warm Water Sport Fish, Warm Water Forage, and Limited Forage Fish	0.411	58.4	19.89	8.41	3.20
Limited Aquatic Life	0.633	90.0	30.64	12.95	4.93

[1] For ammonia, along with data on all warm water fish species and invertebrates, the cold water criteria are calculated using data on all cold water fish species with the following exceptions:

CW Category 1 = Default category of cold water classification. This category includes all fish. [Note: CW Category 1 is always applicable in Lake Superior, Lake Michigan, and Green Bay north of 44° 32' 30" north latitude.]

CW Category 2 = Inland lakes with populations of cisco, lake trout, brook trout or brown trout, but no other trout or salmonid species. This category excludes data on genus *Onchorhynchus*.

CW Category 3 = Inland lakes with populations of cisco, but no trout or salmonid species. This category excludes data on genera *Onchorhynchus*, *Salmo*, and *Salvelinus*.

CW Category 4 = Inland trout waters with brook, brown, or rainbow trout, but no whitefish or cisco. This category excludes data on genus *Prosopium*.

CW Category 5 = Inland trout waters with brook and brown trout, but no whitefish, cisco, or other trout or salmonid species. This category excludes data on genera *Prosopium* and *Onchorhynchus*.

Table 3
Chronic Toxicity Criteria for Substances With Toxicity Unrelated to Water Quality(all in ug/L)

Substance	Cold Water	Warm Water Sportfish, Warm Water Forage and Limited Forage Fish	Limited Aquatic Life
(Reserved)			

Note: This table is reserved for criteria that USEPA has indicated may be available in the near future.

Table 4
Chronic Toxicity Criteria for Substances With Toxicity Related to Water Quality (all in ug/L)

Water Quality Parameter: Hardness (in ppm as $CaCO_3$

$CTC=e^{(V \ln(\text{hardness}) + \ln CCI)}$

Substance	V	ln CCI	CTC at Various Hardness (ppm) Levels: 50	100	175
Total Recoverable Cadmium:					
All Surface Waters	0.7852	−2.7150	1.43	2.46	3.82

Table 4A
Water Quality Parameter Ranges for Substances With Chronic Toxicity Related to Water Quality

Substance	Parameter	Applicable Range
Cadmium	Hardness (ppm)	18−175

Table 4B
Chronic Toxicity Criteria for Ammonia with Toxicity Related to Water Quality (all in mg/L)

Substance: Ammonia (as N)
Water Quality Parameters: Temperature in degrees Celsius, pH

30−Day CTC:
$CTC = E \text{ X } ((0.0676/(1 + 10^{(7.688 - pH)})) + (2.912/(1 + 10^{(pH - 7.688)}))) \text{ X } C$

4−Day CTC = 30−Day CTC X 2.5

Cold Water (all periods), Warm Water Sport Fish and Warm Water Forage Fish (periods with Early Life Stages Present):
$C = \text{minimum of } (2.85) \text{ or } (1.45 \text{ X } 10^{(0.028 \text{ X } (25 - T))})$
T = Temperature in degrees Celsius
E = 0.854

Warm Water Sport Fish and Warm Water Forage Fish (periods with Early Life Stages Absent):
$C = (1.45 \text{ X } 10^{(0.028 \text{ X } (25 - T))})$
T = Maximum of (actual temperature in degrees Celsius) and (7)
E = 0.854

Limited Forage Fish (periods with Early Life Stages Present):
$C = \text{minimum of } (3.09) \text{ or } (3.73 \text{ X } 10^{(0.028 \text{ X } (25 - T))})$
T = temperature in degrees Celsius
E = 1

Limited Forage Fish (periods with Early Life Stages Absent):
$C = (3.73 \text{ X } 10^{(0.028 \text{ X } (25 - T))})$
T = Maximum of (actual temperature in degrees Celsius) and (7)
E = 1

Limited Aquatic Life (all periods):
$C = (8.09 \text{ X } 10^{(0.028 \text{ X } (25 - T))})$
T = temperature in degrees Celsius
E = 1

	30−day CTC in mg/L @ pH of:		
	7.5	8.0	8.5
Cold Water, Warm Water Sport Fish (Early Life States Present), and Warm Water Forage Fish (Early Life Stages Present):			
@ 25 degrees Celsius	2.22	1.24	0.55
@ 14.5 degrees Celsius or less	4.36	2.43	1.09
Warm Water Sport Fish (Early Life Stages Present), and Warm Water Forage Fish (Early Life Stages Absent):			
@ 25 degrees Celsius	2.22	1.24	0.55
@ 7 degrees Celsius or less	7.09	3.95	1.77
Limited Forage Fish (Early Life Stages Present):			
@ 27 degrees Celsius or less	5.54	3.09	1.38
Limited Forage Fish (Early Life Stages Absent):			
@ 25 degrees Celsius	6.69	3.73	1.67
@ 7 degrees Celsius or less	21.34	11.90	5.33
Limited Aquatic Life:			
@ 25 degrees Celsius	14.50	8.09	3.62
@ 7 degrees Celsius or less	46.29	25.82	11.56

Note: The terms "early life stage present" and "early life stage absent" are defined in subch. III of ch. NR 106.

Table 5

Chronic Toxicity Criteria Using Acute−Chronic Ratios for Substances with Toxicity Unrelated to Water Quality (all in ug/L)

Substance	Cold Water	Warm Water Sportfish and Warm Water Forage	Limited Forage Fish and Limited Aquatic Life
Arsenic (+3)*	148	152.2	152.2
Chromium (+6)*	10.98	10.98	10.98
Mercury (+2)*	0.44	0.44	0.44
Cyanide, free	5.22	11.47	11.47
Chloride	395,000	395,000	395,000
Selenium	5.0	5.0	46.5
Chlorine[1]	7.28	7.28	7.28
Dieldrin	0.055	0.077	0.077
Endrin	0.036	0.050	0.050
Parathion	0.011	0.011	0.011

Note: [1]Criterion listed is applicable to the "total recoverable" form except for chlorine which is applicable to the "total residual" form.

Table 6

Chronic Toxicity Criteria Using Acute−Chronic Ratios for Substances With Toxicity Related to Water Quality (all in ug/L)

Water Quality Parameter: Hardness (in ppm as $CaCO_3$)					
$CTC=e^{(V \ln(hardness) + \ln CCI)}$			CTC at Various Hardness (ppm) Levels		
Substance	V	ln CCI	50	100	200
Total Recoverable Chromium (+3):					
Cold Water	0.819	0.6851	48.86	86.21	152.1
Warm Water Sportfish	0.819	1.112	74.88	132.1	233.1
All others	0.819	1.112	74.88	132.1	233.1
Total Recoverable Copper:					
All Surface Waters	0.8557	−1.6036	5.72	10.35	18.73
Total Recoverable Lead:					
All Surface Waters	0.9662	−1.1171	14.33	28.01	54.71
Total Recoverable Nickel:					
Cold Water, Warm Water Sportfish, Warm Water Forage, and Limited Forage Fish	0.846	0.059	29.0	52.2	93.8
Limited Aquatic Life	0.846	0.4004	40.8	73.4	132.0
Total Recoverable Zinc					
All Surface Waters	0.8745	0.7634	65.66	120.4	220.7
Water Quality Parameter: pH					
$CTC=e^{(V(pH) + \ln CCI)}$			CTC at Various pH (s.u.) Levels		
Substance	V	ln CCI	6.5	7.8	8.8
Pentachlorophenol:					
Cold Water	1.0054	−5.1468	4.43	14.81	40.48
All Other Surface Waters	1.0054	−4.9617	5.33	17.82	48.70

History: Cr. Register, February, 1989, No. 398, eff. 3−1−89; am. (5) (f) and Tables 2, 2a, 4, 4a and 6, Register, July, 1995, No. 475, eff. 8−1−95; am. (1) (a) 1., 2., 4., and 5., (1) (b), (3) (intro.), (a) to (g), (4) (a) 1., 7. to 13., (5) (c), renum. (1) (a) 6. to be (1) (a) 10. , (3) (h) to be (3) (i) and am. (1) (a) 10, (4) (a) 6. to be (4) (a) 6. a., (4) (b) to be (4) (c), (5) (e) to (i) to be (5) (d) to (h) and am. (5) (e) to (g), cr. (3) (h), (4) (a) 6. b., (4) (b), (5) (b) 3., (6) to (8), r. and recr., Tables 1 to 2a, 3 to 6, r. (5) (d)**;** am. Tables 1 and 5, Register, January, 2000, No. 529, eff. 2−1−00**;** CR 03−050: am. Tables 2 and 6, cr. Tables 2C and 4B Register February 2004 No. 578, eff. 3−1−04; **CR 07−110: am Tables 2, 2A, 5 and 6 Register November 2008 No. 635, eff. 12−1−08**.

NR 105.07 Wildlife criteria. (1) The wildlife criterion is the concentration of a substance which if not exceeded protects Wisconsin's wildlife from adverse effects resulting from ingestion of surface waters of the state and from ingestion of aquatic organisms taken from surface waters of the state.

(a) For any substance not shown in Table 7, the wildlife criterion (WC) is the lower of the available mammalian or avian wildlife values (WVs) calculated pursuant to sub. (2). A wildlife criterion protective of Wisconsin's reptile fauna may be calculated pursuant to sub. (2) whenever data specific to reptiles are available.

(b) Table 7 contains the wildlife criteria calculated according to the procedures of this chapter.

Table 7
Wildlife Criteria

Substance	Criteria (in ng/L, except where indicated)
DDT & Metabolites	0.011
Mercury	1.3
Polychlorinated Biphenyls	0.12
2,3,7,8 − TCDD	0.003 (pg/L)

(2) (a) Mammalian and avian wildlife values shall be calculated as follows using information available from scientifically acceptable studies of animal species exposed repeatedly to the substance via oral routes including gavage:

$$WV = \frac{NOAEL \times Wt_A \times SSF}{W + \Sigma[F_{TLi} \times BAF_{TLi}]}$$

Where:

WV= Wildlife value in milligrams per liter (mg/L).

NOAEL= No observed adverse effect level in milligrams of substance per kilogram of body weight per day (mg/kg−d) as derived from subchronic or chronic mammalian or avian studies or as specified in subs. (3) to (5).

Wt= Average weight in kilograms (kg) of the representative species.

W= Average daily volume of water in liters consumed per day (L/d) by the representative species or as specified in sub. (6).

SSF= Species sensitivity factor, ranging between 0.01 and 1 to account for interspecies differences in sensitivity.

F_{TLJ}= Average daily amount of food consumed from trophic level i by the representative species in kilograms per day (kg/d) or as specified in sub. (6).

BAF_{TLJ}= Bioaccumulation factor for wildlife food in trophic level i with units of liter per kilogram (L/kg) as derived in s. NR 105.10. For consumption of piscivorous birds by other birds (e.g., herring gull by eagles), the BAF is derived by multiplying the trophic level 3 BAF for fish by a biomagnification factor to account for the biomagnification from fish to the consumed birds.

(b) The selection of the species sensitivity factor (SSF) shall be based on the available toxicological data base and available physicochemical and toxicokinetic properties of the substance and the amount and quality of available data.

(c) The bald eagle, kingfisher, herring gull, mink and otter are representative of avian and mammalian species to be protected by wildlife criteria. A NOAEL specific to each taxonomic class is used to calculate WVs for each of the 5 representative species. The avian WV is the geometric mean of the WVs calculated for the 3 representative avian species. The mammalian WV is the geometric mean of the WVs calculated for the 2 representative mammalian species.

(d) In those cases in which more than one NOAEL is available, the following shall apply:

1. If more than one NOAEL is available within a taxonomic class, based on the same endpoint of toxicity, the NOAEL from the most sensitive species shall be used.

2. If more than one NOAEL is available for a given species, based on the same enpoint of toxicity, the NOAEL for that species shall be calculated using the geometric mean of those NOAELs.

(e) Because wildlife consume fish from both trophic levels 3 and 4, baseline BAFs shall be available for both trophic levels 3 and 4 to calculate either a criterion or secondary value for a chemical. When appropriate, ingestion through consumption of invertebrates, plants, mammals and birds in the diet of wildlife species to be protected shall be included.

(3) In those cases in which a no observed adverse effect level (NOAEL) is available from studies of mammalian or avian species exposed repeatedly to the substance via oral routes including gavage, but is available in units other than mg/kg−d as specified in sub. (2), the following procedures shall be used to express the NOAEL prior to calculating the wildlife value:

(a) If the NOAEL is given in milligrams of toxicant per liter of water consumed (mg/L), the NOAEL shall be multiplied by the daily average volume of water consumed by the test animals in liters per day (L/d) and divided by the average weight of the test animals in kilograms (kg).

(b) If the NOAEL is given in milligrams of toxicant per kilogram of food consumed (mg/kg), the NOAEL shall be multiplied by the average amount of food in kilograms consumed daily by the test animals (kg/d) and divided by the average weight of the test animals in kilograms (kg).

(4) In those cases in which a NOAEL is unavailable and a lowest observed adverse effect level (LOAEL) is available from studies of animal species exposed repeatedly to the substance via oral routes including gavage, the LOAEL may be substituted with proper adjustment to estimate the NOAEL. An uncertainty factor of between one and 10 may be applied to the LOAEL, depending on the sensitivity of the adverse effect, to reduce the LOAEL into the range of a NOAEL. If the LOAEL is available in units other than mg/kg−d, the LOAEL shall be expressed in the same manner as that specified for the NOAEL in sub. (3).

(5) In instances where a NOAEL is based on subchronic data, an uncertainty factor may be applied to extrapolate from subchronic to chronic levels. The value of the uncertainty factor may not be less than 0.1 and may not exceed 1.0. This factor is to be used when assessing highly bioaccumulative substances where toxicokinetic considerations suggest that a bioassay of limited length underestimates chronic effects.

(6) If drinking or feeding rates are not available for representative species, drinking (W) and feeding rates (F_{TLi}) shall be calculated for representative mammalian or avian species by using the allometric equations given in pars. (a) and (b).

(a) For mammalian species the allometric equations are as follows:

1. $F_{TLi}=0.0687 \times (Wt)^{0.82}$

Where: F_{TLi} = Feeding rate of mammalian species in kilograms per day (kg/d).

Wt = Average weight in kilograms (kg) of the test animals.

2. $W=0.099 \times (Wt)^{0.90}$

Where: W = Drinking rate of mammalian species in liters per day (L/d).

Wt = Average weight in kilograms (kg) of the test animals.

(b) For avian species the allometric equations are as follows:

1. $F_{TLi} = 0.0582\ (Wt)^{0.65}$

Where: F_{TLi} = Feeding rate of avian species in kilograms per day (kg/d).

Wt = Average weight in kilograms (kg) of the test animals.

2. $W= 0.059 \text{ x } (Wt)^{0.67}$

Where: W = Drinking rate of avian species in liters per day (L/d).

Wt = Average weight in kilograms (kg) of the test animals.

Note: Criteria to protect domestic animals will be considered on an as needed basis using a model that accounts for domestic animal exposure through drinking water. Because domestic animals do not regularly consume aquatic organisms, the wildlife exposure model is not appropriate.

History: Cr. Register, February, 1989, No. 398, eff. 3−1−89; am. table 7, Register, July, 1991, No. 427, eff. 8−1−91; am. (1), (2) (a), (b), (3) (intro.), (6) (intro.), r. and recr. (2) (c), (5), cr. (2) (d), (e), r. (6) (a), renum. (6) (b) and (c) to be (6) (a) and (b) and am., Register, August, 1997, No. 500, eff. 9−1−97.

NR 105.08 Human threshold criteria. (1) The human threshold criterion (HTC) is the maximum concentration of a substance established to protect humans from adverse effects resulting from contact with or ingestion of surface waters of the state and from ingestion of aquatic organisms taken from surface waters of the state. Human threshold criteria are derived for those toxic substances for which a threshold dosage or concentration can be estimated below which no adverse effect or response is likely to occur.

(2) For noncarcinogenic components of mixtures in effluents, interactions among substances may be additive, antagonistic or synergistic and may be accounted for by a model that is supported by credible scientific evidence. The risks are assumed to be additive when substances are members of the same structural class and cause potential adverse effects via the same mechanism of action, influencing the same kind of endpoint, and shall be accounted for by a model that is supported by credible scientific evidence.

(3) Human threshold criteria are listed in Table 8. Criteria for the same substance may be different depending on the surface water classification, due to the lipid value of representative fish, a component of the BAF, and whether or not the water may be a source of drinking water. Further application of these criteria to protect drinking water and downstream uses in the Great Lakes system shall be according to s. NR 106.06 (1)

(4) To derive human threshold criteria for substances not included in Table 8 the following methods shall be used:

(a) The human threshold criterion shall be calculated as follows:

$$HTC = \frac{ADE \times 70 \text{ kg} \times RSC}{W_H + (F_H \times BAF)}$$

Where: HTC = Human threshold criterion in milligrams per liter (mg/L).

ADE = Acceptable daily exposure in milligrams toxicant per kilogram body weight per day (mg/kg−d) as specified in sub. (5).

70 kg = Average weight of an adult male in kilograms (kg).

RSC = Relative source contribution factor used to account for routes of exposure other than consumption of contaminated water and aquatic organisms. In the absence of sufficient data on alternate sources of exposure, including but not limited to non−fish diet and inhalation, the relative source contribution factor shall be set equal to 0.8.

W_H = Average per capita daily water consumption of 2 liters per day (L/d) for surface waters classified as public water supplies or, for all other surface waters, 0.01 liters per day (L/d) for exposure through body contact or ingestion of small volumes of water during swimming or other recreational activities.

F_H = Average per capita daily consumption of sport−caught fish by Wisconsin anglers equal to 0.02 kilograms per day (kg/d).

BAF = Aquatic organism bioaccumulation factor with units of liter per kilogram (L/kg) as derived in s. NR 105.10.

Table 8
Human Threshold Criteria
(ug/L unless specified otherwise)

		Public Water Supply		Non−Public Water Supply		
	Substance	Warm Water Sport Fish Communities	Cold Water[4] Communities	Warm Water Forage, Limited Forage, and Warm Water Sport Fish Communities	Cold Water Communities	Limited Aquatic Life
1.	Acrolein	7.2	3.4	15	4.4	2,800
2.	Antimony[2]	5.6	5.6	373	373	1,120
3.	Benzene[2]	5	5	610	260	4,000
4.	Bis(2−chloroisopropyl) ether	1,100	1,100	55,000	34,000	220,000
5.	Cadmium[2]	4.4	4.4	370	370	880
6.	*Chlordane (ng/L)	2.4	0.70	2.4	0.70	310,000
7.	Chlorobenzene[2]	100	100	1,210	400	28,000
8.	Chromium, total[2]	100	100			
9.	Chromium (+3)	41,750	41,750	3,818,000	3,818,000	8,400,000
10.	Chromium (+6)	83.5	83.5	7,636	7,636	16,800
11.	Cyanide, Total[2]	138.6	138.6	9,300	9,300	28,000
12.	*4.4'−DDT (ng/L)	3.0	0.88	3.0	0.88	2800000
13.	1,2−Dichlorobenzene[2]	446	273	1,509	481	126,000
14.	1,3−Dichlorobenzene	1,400	710	3,300	1,000	500,000
15.	cis−1,2−Dichloroethene[2]	70	70	14,000	9,000	56,000
16.	trans−1,2−Dichloroethene[2]	100	100	24,000	13,000	110,000
17.	Dichloromethane[2] (methylene chloride)	5	5	95,000	72,000	328,000
18.	2,4−Dichlorophenol	74	58	580	180	17,000
19.	Dichloropropenes[3] (1,3−Dichloropropene)	8.3	8.2	420	260	1,700
20.	*Dieldrin (ng/L)	0.59	0.17	0.59	0.17	280,000
21.	2,4−Dimethylphenol	450	430	11,000	4,500	94,000
22.	Diethyl phthalate[2]	5,000	5,000	68,000	21,000	4,500,000
23.	Dimethyl phthalate (mg/L)	241	184	1,680	530	56,000
24.	4,6−Dinitro−o−cresol	100	96	1,800	640	22,000
25.	Dinitrophenols[3] (2,4−Dinitrophenol)	55	55	2,800	1,800	11,000
26.	2,4−Dinitrotoluene	0.51	0.48	13	5.3	110
27.	Endosulfan	87	41	181	54	33,600
28.	Ethylbenzene[2]	567	401	2,920	931	140,000
29.	Fluoranthene	890	610	4,300	1,300	220,000
30.	*Hexachlorobenzene	0.075	0.022	0.075	0.022	4,500
31.	Hexachlorocyclopentadiene	34.7	25.6	195	65.3	8,400
32.	Hexachloroethane	8.7	3.3	13	3.7	5,600
33.	*gamma−BHC (lindane)	0.20	0.20	0.84	0.25	1,900
34.	Isophorone	5,500	5,300	180,000	80,000	1,100,000
35.	Lead	10	10	140	140	2,240
36.	*Mercury[5]	0.0015	0.0015	0.0015	0.0015	336
37.	Nickel[2]	100	100	43,000	43,000	110,000
38.	*Pentachlorobenzene	0.46	0.14	0.47	0.14	4,500
39.	Selenium[2]	50	50	2,600	2,600	28,000
40.	Silver	140	140	28,000	28,000	28,000
41.	*2,3,7,8−TCDD (pg/L)	0.11	0.032	0.11	0.032	7,300
42.	*1,2,4,5−Tetrachlorobenzene	0.54	0.17	0.58	0.17	1,700
43.	Tetrachloroethene	5.8	4.6	46	15	1,300
44.	Toluene[2]	1,000	1,000	15,359	5,201	280,000
45.	1,1,1−Trichloroethane[2]	200	200	270,000	110,000	2,000,000
46.	2,4,5−Trichlorophenol	1,600	830	3,900	1,200	560,000

* Indicates substances that are BCCs.

[1] A human threshold criterion expressed in micrograms per liter (ug/L) can be converted to milligrams per liter (mg/L) by dividing the criterion by 1000.

[2] For this substance the human threshold criteria for public water supply receiving water classifications equal the maximum contaminant level pursuant to s. NR 105.08 (4) (b).

[3] The human threshold criteria for this chemical class are applicable to each isomer.

4 For BCCs, these criteria apply to all water of the Great Lakes system.

[5] The mercury criteria were calculated using 20 g/day fish consumption and the human non−cancer criteria derivation procedure in 40 CFR Part 132, Appendix C. For these criteria, 40 CFR Part 132, Appendix C as stated on September 1, 1997 is incorporated by reference.

(b) For surface waters classified as public water supplies, if the human threshold criterion for a toxic substance as calculated in par. (a) exceeds the maximum contaminant level (MCL) for that substance as specified in ch. NR 809 or the July 8, 1987 Federal Register (52 FR 25690), the MCL shall be used as the human threshold criterion.

(5) The acceptable daily exposure (ADE) referenced in sub. (4) represents the maximum amount of a substance which if ingested daily for a lifetime results in no adverse effects to humans. Paragraphs (a) to (c) list methods for determining the acceptable daily exposure.

(a) The department shall review available references for acceptable daily exposure or equivalent values, such as a reference dose (RfD) as used by the U.S. environmental protection agency, and for human or animal toxicological data from which an acceptable daily exposure can be derived. Suitable references for review include, but are not limited to, those presented in s. NR 105.04 (5).

(b) When human or animal toxicological data are available, the department may derive an acceptable daily exposure by using as guidance procedures presented by the U.S. environmental protection agency in "Water Quality Criteria Documents; Availability" (45 FR 79318, November 28, 1986). Additional guidance for deriving acceptable daily exposures from toxicological data are given in subds. 1. to 4. Alternate procedures may be used if supported by credible scientific evidence.

1. No observable adverse effect levels (NOAELs) and lowest observable adverse effect levels (LOAELs) from studies of humans or mammalian test species shall be divided by an uncertainty factor to derive an acceptable daily exposure. Uncertainty factors reflect uncertainties in predicting acceptable exposure levels for the general human population based upon experimental animal data or limited human data. Factors to be considered when selecting an uncertainty factor include, but are not limited to, interspecies and individual variations in response and susceptibility to a toxicant, and the quality and quantity of the available data. The following guidelines shall be considered when selecting an uncertainty factor:

a. Use an uncertainty factor of 10 when extrapolating from valid experimental results from studies on prolonged ingestion by humans. This 10−fold factor protects sensitive members of the human population.

b. Use an uncertainty factor of 100 when extrapolating from valid results of long−term feeding studies on experimental animals with results of studies of human ingestion not available or insufficient (e.g., acute exposure only). This represents an additional 10−fold uncertainty factor in extrapolating data from the average animal to the average human.

c. Use an uncertainty factor of 1000 when extrapolating from less than chronic results on experimental animals with no useful long−term or acute human data. This represents an additional 10−fold uncertainty factor in extrapolating from less than chronic to chronic exposures.

d. Use an additional uncertainty factor of between 1 and 10 depending on the severity of the adverse effect when deriving an acceptable daily exposure from a lowest observable adverse effect level (LOAEL). This uncertainty factor reduces the LOAEL into the range of a no observable adverse effect level (NOAEL).

e. Use an additional uncertainty factor of 10 when deriving an acceptable daily exposure for a substance which the U.S. environmental protection agency classifies as a "group C" carcinogen, but which is not defined as a carcinogen in s. NR 105.03 (13).

2. Results from studies of humans or mammalian test species used to derive acceptable daily exposures shall have units of milligrams of toxicant per kilogram of body weight per day (mg/kg−d). When converting study results to the required units, a water consumption of 2 liters per day (L/d) and a body weight of 70 kilograms (kg) is assumed for humans. The following examples and procedures illustrate the conversion of units:

a. Results from human studies which are expressed in milligrams of toxicant per liter of water consumed (mg/L) are converted to mg/kg−d by multiplying the results by 2 L/d and dividing by 70 kg.

b. Results from animal studies which are expressed in milligrams of toxicant per liter of water consumed (mg/L) are converted to mg/kg−d by multiplying the results by the daily average volume of water consumed by the test animals in liters per day (L/d) and dividing by the average weight of the test animals in kilograms (kg).

c. Results from animal studies which are expressed in milligrams of toxicant per kilogram of food consumed (mg/kg) are converted to mg/kg−d by multiplying the results by the average amount of food consumed daily by the test animals in kilograms per day (kg/d) and dividing by the average weight of the test animals in kilograms (kg).

d. If a study does not specify water or food consumption rates, or body weight of the test animals, standard values taken from appropriate references, such as the National Institute of Occupational Safety and Health, 1980, Registry of Toxic Effects of Chemical Substances, may be used to convert units.

e. Results from animal studies in which test animals were not exposed to the toxicant each day of the test period shall be multiplied by the ratio of days that the test animals were dosed to the total days of the test period. For the purposes of this adjustment, the test period is defined as the interval beginning with the administration of the first dose and ending with the administration of the last dose, inclusive.

3. When assessing the acceptability and quality of human or animal toxicological data from which an acceptable daily exposure can be derived, the department may use the following documents as guidance:

a. "Guidelines for Mutagenicity Risk Assessment", (51 FR 34006, September 24, 1986).

b. "Guidelines for the Health Risk Assessment of Chemical Mixtures", (51 FR 34014, September 24, 1986).

c. "Guidelines for the Health Assessment of Suspect Development Toxicants", (51 FR 34028, September 24, 1986).

d. "Guidelines for Exposure Assessment", (51 FR 34042, September 24, 1986).

e. Any other documents that the department deems reliable.

4. When the available human or animal toxicological data contains conflicting information, the department may consult with experts outside of the department for guidance in the selection of the appropriate data.

(c) Using sound scientific judgment, the department shall select an acceptable daily exposure as derived in pars. (a) and (b) for calculation of the human threshold criterion. When selecting an acceptable daily exposure, the department shall adhere to the following guidelines unless a more appropriate procedure is supported by credible scientific evidence:

1. Acceptable daily exposures based on human studies are given preference to those based on animal studies.

2. When deriving an acceptable daily exposure from animal studies preference is given to chronic studies involving oral routes of exposure, including gavage, over a significant portion of the animals' life span. If acceptable studies using oral exposure routes are not available, acceptable daily exposures derived from studies using alternate exposure routes, such as inhalation, may be used.

3. When 2 or more acceptable daily exposure values are available and have been derived from studies having equal preference as defined in subds. 1. and 2., the lowest acceptable daily exposure is generally selected. If the acceptable daily exposure values differ significantly, the department may consult with experts outside of the department for guidance in the selection of the more appropriate acceptable daily exposure.

History: Cr. Register, February, 1989, No. 398, eff. 3−1−89; correction in (3) (b) made under s. 13.93 (2m) (b) 7., Stats., Register, September, 1995, No. 477; renum. (2) to (4) to be (3) to (5) and am., cr. (2), r. and recr. Table 8, am. (5) (intro.), 1. (intro.), d., e., 2 (intro.) and (c) and am., Register, August, 1997, No. 500, eff. 9−1−97; CR 03−050: am. Table 8 Register February 2004 No. 578, eff. 3−1−04; **CR 07−110: am. Table 8 Register November 2008 No. 635, eff. 12−1−08**.

NR 105.09 Human cancer criteria. (1) The human cancer criterion (HCC) is the maximum concentration of a substance or mixture of substances established to protect humans from an unreasonable incremental risk of cancer resulting from contact with or ingestion of surface waters of the state and from ingestion of aquatic organisms taken from surface waters of the state. Human cancer criteria are derived for those toxic substances which are carcinogens as defined in s. NR 105.03 (13).

(2) For any single carcinogen or any mixture of carcinogens the incremental cancer risk from exposure to surface waters and aquatic organisms taken from surface waters may not exceed one in 100,000. The combined cancer risk of individual carcinogens in a mixture is assumed to be additive unless an alternate model is supported by credible scientific evidence.

(3) Human cancer criteria are listed in Table 9. Criteria for the same substance may be different depending on the surface water classification, due to the lipid value of representative fish, a component of the BAF, and whether or not the water may be a source of drinking water. Further application of these criteria to protect drinking water and downstream uses in the Great Lakes system shall be according to s. NR 106.06 (1).

Table 9
Human Cancer Criteria
(ug/L unless specified otherwise[1])

		Public Water Supply		Non−Public Water Supply		
	Substance	Warm Water Sport Fish Communities	Cold Water[4] Communities	Warm Water Forage, Limited Forage, and Warm Water Sport Fish Communities	Cold Water Communities	Limited Aquatic Life
1.	Acrylonitrile	0.57	0.45	4.6	1.5	130
2.	Arsenic[2]	0.2	0.2	13.3	13.3	40
3.	*alpha−BHC	0.012	0.0037	0.013	0.0039	11
4.	*gamma−BHC (lindane)	0.052	0.018	0.064	0.019	54
5.	*BHC, technical grade	0.038	0.013	0.047	0.014	39
6.	Benzene[2]	5	5	140	45	1300
7.	Benzidine (ng/L)	1.5	1.5	81	55	300
8.	Beryllium	0.054	0.054	0.33	0.33	16
9.	Bis(2−chloroethyl) ether	0.31	0.29	7.6	3.0	64
10.	Bis(chloromethyl) ether (ng/L)	1.6	1.6	96	79	320
11.	Carbon tetrachloride	2.5	2.1	29	9.5	540
12.	*Chlordane (ng/L)	0.41	0.12	0.41	0.12	54000
13.	Chloroethene (vinyl chloride)	0.18	0.18	10	6.8	37
14.	Chloroform (trichloromethane)	55	53	1960	922	11200
15.	*4,4'−DDT (ng/L)	0.22	0.065	0.22	0.065	206000
16.	1,4−Dichlorobenzene	14	12	163	54	2940
17.	3,3'−Dichlorobenzidine	0.5	0.3	1.3	0.4	140
18.	1,3−Dichloropropene	3.4	3.4	173	108	700
19.	1,2−Dichloroethane	3.8	3.8	217	159	770
20.	Dichloromethane[2] (methylene chloride)	5	5	2700	2100	9600
21.	*Dieldrin (ng/L)	0.0091	0.0027	0.0091	0.0027	4400
22.	2,4−Dinitrotoluene	0.51	0.48	13	5.3	110
23.	1,2−Diphenylhydrazine	0.38	0.31	3.3	1.04	88
24.	Halomethanes[3]	55	53	1960	922	11200
25.	*Hexachlorobenzene (ng/L)	0.73	0.22	0.73	0.22	44000
26.	*Hexachlorobutadiene	0.59	0.19	0.69	0.2	910
27.	Hexachloroethane	7.7	2.9	11	3.3	5000
28.	N−Nitrosodiethylamine (ng/L)	2.3	2.3	150	140	460
29.	N−Nitrosodimethylamine	0.0068	0.0068	0.46	0.46	1.4
30.	N−Nitrosodi−n−butylamine	0.063	0.062	2.5	1.3	13
31.	N−Nitrosodiphenylamine	44	23	116	34	13000
32.	N−Nitrosopyrrolidine	0.17	0.17	11	11	34
33.	*Polychlorinated biphenyls (ng/L)	0.01	0.003	0.01	0.003	9100
34.	*2,3,7,8−Tetrachlorodibenzo−p−dioxin (pg/L)	0.014	0.0041	0.014	0.0041	930
35.	1,1,2,2−Tetrachloroethane	1.7	1.6	52	22	350
36.	Tetrachloroethene	5.8	4.6	46	15	1300
37.	*Toxaphene (ng/L)	0.11	0.034	0.14	0.034	63600
38.	1,1,2−Trichloroethane[2]	6.0	6.0	195	87	1200
39.	Trichloroethene[2]	5	5	539	194	6400
40.	2,4,6−Trichlorophenol	29	24	300	97	6400

* Indicates substances that are BCCs.

[1] A human cancer criterion expressed in micrograms per liter (ug/L), nanograms per liter (ng/L) or picograms per liter (pg/L) can be converted to milligrams per liter (mg/L) by dividing the criterion by 1000, 1,000,000 or 1,000,000,000, respectively.

[2] For this substance the human cancer criteria for public water supply receiving water classifications equal the maximum contaminant level pursuant to s. NR 105.09 (4) (b).

[3] Human cancer criteria for halomethanes are applicable to any combination of the following chemicals: bromomethane (methyl bromide), chloromethane (methyl chloride), tribromomethane (bromoform), bromodichloromethane (dichloromethyl bromide), dichlorodifluoromethane (fluorocarbon 12) and trichlorofluoromethane (fluorocarbon 11).

[4] For BCCs, these criteria apply to all waters of the Great Lakes system.

(4) To derive human cancer criteria for substances not included in Table 9 the following methods shall be used:

(a) The human cancer criterion shall be calculated as follows:

$$HCC = \frac{RAD \times 70\ kg}{W_H + (F_H \times BAF)}$$

Where:

HCC	=	Human cancer criterion in milligrams per liter (mg/L).
RAD	=	Risk associated dose in milligrams toxicant per kilogram body weight per day (mg/kg−d) that is associated with a lifetime incremental cancer risk equal to one in 100,000 as derived in sub. (5).
70 kg	=	Average weight of an adult male in kilograms (kg).
W_H	=	Average per capita daily water consumption of 2 liters per day (L/d) for surface waters classified as public water supplies or, for other surface waters, 0.01 liters per day (L/d) for exposure through contact or ingestion of small volumes of water during swimming or during other recreational activities.
F_H	=	Average per capita daily consumption of sport−caught fish by Wisconsin anglers equal to 0.02 kilograms per day (kg/d).
BAF	=	Aquatic life bioaccumulation factor with units of liter per kilogram (L/kg) as derived in s. NR 105.10.

(b) For surface waters classified as public water supplies, if the human cancer criterion for a toxic substance as calculated in par. (a) exceeds the maximum contaminant level (MCL) for that substance as specified in ch. NR 809 or the July 8, 1987 Federal Register (52 FR 25690), the MCL shall be used as the human cancer criterion.

(5) The risk associated dose (RAD) referenced in sub. (4) represents the maximum amount of a substance which if ingested daily for a lifetime of 70 years has an incremental cancer risk equal to one case of human cancer in a population of 100,000. Methods for deriving the risk associated dose are specified in pars. (a) to (d).

(a) The department shall review available references for acceptable human and animal studies from which the risk associated dose can be derived. The department shall use sound scientific judgment when determining the acceptability of a study and may use the U.S. environmental protection agency's "Guidelines for Carcinogen Risk Assessment" (FR 51 33992, September 24, 1986) as guidance for judging acceptability. Suitable references for review include, but are not limited to, those presented in s. NR 105.04 (5).

(b) If an acceptable human epidemiologic study is available, contains usable exposure data, and indicates a carcinogenic effect, the risk associated dose shall be set equal to the lifetime average exposure which would produce an incremental cancer risk of one in 100,000 based on the exposure information from the study and assuming the excess cancer risk is proportional to the lifetime average exposure. If more than one human epidemiologic study is judged to be acceptable, the most protective risk associated dose derived from the studies is generally used to calculate the human cancer criterion. If the risk associated dose values differ significantly, the department may consult with experts outside of the department for guidance in the selection of the more appropriate value.

(c) In the absence of an acceptable human epidemiologic study, the risk associated dose shall be derived from available studies which use mammalian test species and which are judged acceptable. Methods for deriving the risk associated dose are specified in subds. 1. to 4.

1. A linear, non−threshold dose−response relationship as applied by the U.S. environmental protection agency in "Water Quality Criteria Documents; Availability" (45 FR 79318, November 28, 1980) shall be assumed unless a more appropriate dose−response relationship or extrapolation model is supported by credible scientific evidence.

Note: The linear non−threshold dose−response model used by the U.S. environmental protection agency provides an upper−bound estimate (i.e., the one−sided 95% upper confidence limit) of incremental cancer risk. The true cancer risk is unknown. While the true cancer risk is not likely to be greater than the upper bound estimate, it may be lower.

2. When a linear, non−threshold dose−response relationship is assumed, the risk associated dose shall be calculated using the following equation:

$$RAD = \frac{1}{q_1^*} \times 0.00001$$

Where:

RAD	=	Risk associated dose in milligrams toxicant per kilogram body weight per day (mg/kg−d).
0.00001	=	Incremental risk of human cancer equal to one in 100,000.
q_1^*	=	Upper 95% confidence limit (one−sided) of the carcinogenic potency factor in days per milligram toxicant per kilogram body weight (d−kg/mg) as derived from the procedures referenced in subd. 1. and the guidance presented in subd. 3.

3. The department shall adhere to the following guidance for deriving carcinogenic potency factors, or corresponding values if an alternate dose−response relationship or extrapolation model is used, unless more appropriate procedures are supported by credible scientific evidence:

a. If 2 or more mammalian studies are judged acceptable, but vary in either species, strain or sex of the test animals, or in tumor type or site, the study giving the greatest carcinogenic potency factor shall be used. Studies which produce a spuriously high carcinogenic potency factor due to the use of a small number of test animals may be excluded.

b. If 2 or more mammalian studies are judged acceptable, are comparable in size and are identical in regard to species, strain and sex of the test animals and to tumor sites, the geometric mean of the carcinogenic potency factors derived from each study shall be used.

c. If in an acceptable study, tumors were induced at more than one site, the number of animals with tumors at one or more of the sites shall be used as incidence data when deriving the cancer potency factor.

d. The combination of benign and malignant tumors shall be used as incidence data when deriving the cancer potency factor.

e. Calculation of an equivalent dose between animal species and humans using a surface area conversion, and conversion of units of exposure to milligrams of toxicant per day (mg/d) shall be performed as specified by the U.S. environmental protection agency in "Water Quality Criteria Documents; Availability" (45 FR 79318, November 28, 1980).

f. If the duration of the mammalian study (D) is less than the natural life span of the test animal (LS), the carcinogenicity potency factor is multiplied by the factor (D/LS)3.

4. When available mammalian studies contain conflicting information, the department shall consult with the department of health and social services and may consult with experts outside of the department for guidance in the selection of the appropriate study.

(d) If both a human epidemiologic study and a study of mammalian test species are judged reliable but only the animal study indicates a carcinogenic effect, it is assumed that a risk of cancer to humans exists but that it is less than could have been detected in the epidemiologic study. An upper limit of cancer incidence may be calculated assuming that the true incidence is just below the level of detection in the cohort of the epidemiologic study. The department may consult with experts outside of the department for guidance in the selection of the appropriate study.

History: Cr. Register, February, 1989, No. 398, eff. 3−1−89; am. table 9 and (6), Register, July, 1991, No. 427, eff. 8−1−91; correction in (4) (b) made under s. 13.93 (2m) (b) 7., Stats., Register, September, 1995, No. 477; am. (1), (3), r. and recr. Table 9, am. (4) (a), (b), (5) (intro.), (a) (b), (c) (intro.) and 2., r. (6), Register, August, 1997, No. 500, eff. 9−1−97; CR 03−050: am. Table 9 Register February 2004 No. 578, eff. 3−1−04; **CR 07−110: am. Table 9 Register November 2008 No. 635, eff. 12−1−08**.

NR 105.10 Bioaccumulation factor. (1) The bioaccumulation factor used to derive wildlife, human threshold, human cancer and taste and odor criteria or secondary values is determined from a baseline BAF using the methodology provided in Appendix B to 40 CFR part 132. 40 CFR part 132, Appendix B as stated on September 1, 1997, is incorporated by reference. BAFs shall be used to calculate criteria and secondary values for human health and wildlife. Use of a BAF greater than 1000, as determined from either of the methods referred to in sub. (2) (c) or (d) for organic substances, will result in the calculation of a secondary value. The baseline BAF is based on the concentration of freely dissolved substances in the ambient water to facilitate extrapolation from one water to another.

(2) Baseline BAFs shall be derived using one of the following 4 methods, which are listed from most preferred to least preferred.

(a) A measured baseline BAF for an organic or inorganic substance derived from a field study of acceptable quality;

(b) A predicted baseline BAF for an organic substance derived using field−measured BSAFs of acceptable quality;

(c) A predicted baseline BAF for an organic or inorganic substance derived from a BCF measured in a laboratory study of acceptable quality and a food−chain multiplier. Food−chain multipliers are provided in 40 CFR part 132, Appendix B; or

(d) A predicted baseline BAF for an organic substance derived from a K_{OW} of acceptable quality and a food−chain multiplier.

(3) REVIEW AND SELECTION OF DATA. Measured BAFs, BSAFs and BCFs shall meet the quality assurance requirements provided in 40 CFR part 132, Appendix B and shall be obtained from available sources including the following:

(a) EPA Ambient Water Quality Criteria documents issued after January 1, 1980.

(b) Published scientific literature.

(c) Reports issued by EPA or other reliable sources.

(d) Unpublished data.

(4) HUMAN HEALTH AND WILDLIFE BAFS FOR ORGANIC SUBSTANCES. (a) To calculate human health and wildlife BAFs for organic substances, the K_{OW} of the substance shall be used with a POC concentration of 0.00000004 kg/L and a DOC concentration of 0.000002 kg/L to yield the fraction freely dissolved:

$$f_{fd} = \frac{1}{1 + \frac{(DOC)(K_{ow})}{10} + (POC)(Kow)}$$

$$= \frac{1}{1 + \frac{(0.000002\ kg/L)(K_{ow})}{10} + (0.00000004\ kg/L)(Kow)}$$

$$= \frac{1}{1 + (0.00000024\ kg/L)(K_{ow})}$$

Where:

DOC = concentration of dissolved organic carbon, kg of dissolved organic carbon/L of water.

POC = concentration of particulate organic carbon, kg of particulate organic carbon/L of water.

(b) The human health BAFs for an organic substance shall be calculated using the following equations:

For warm water communities:

Human Health BAF = [(baseline BAF)(0.013)+ 1](f_{fd})

For cold water communities:

Human Health BAF = [(baseline BAF)(0.044)+ 1](f_{fd})

Where: 0.013 and 0.044 are the fraction lipid values for warm and cold water fish and aquatic life communities, respectively, that are required to derive human health criteria and secondary values.

baseline BAF = the baseline BAF calculated according to 40 CFR part 132, Appendix B.

(c) The wildlife BAFs for an organic substance shall be calculated using the following equations:

1. For trophic level 3:

Wildlife BAF = [(baseline BAF)(0.0646)+ 1](f_{fd})

2. For trophic level 4:

Wildlife BAF = [(baseline BAF)(0.1031)+ 1](f_{fd})

Where: 0.0646 and 0.1031 are the standardized fraction lipid values for dietary consumption from trophic level 3 and 4 fish taxa, respectively, that are required to derive wildlife criteria and secondary values.

baseline BAF = the baseline BAF calculated according to 40 CFR part 132, Appendix B.

(5) HUMAN HEALTH AND WILDLIFE BAFS FOR INORGANIC SUBSTANCES. (a) *Human health.* 1. Measured BAFs and BCFs used to determine human health BAFs for inorganic substances shall be based on edible tissue (e.g., muscle) of freshwater fish. If it is demonstrated that whole−body BAFs or BCFs are similar to edible−tissue BAFs or BCFs, then these data are acceptable. BCFs and BAFs based on measurements of aquatic plants and invertebrates may not be used in the derivation of human health criteria and values.

2. If one or more field−measured baseline BAFs for an inorganic substance are available from studies conducted in the Great Lakes system with the muscle of fish, the geometric mean of the species mean baseline BAFs shall be used as the human health BAF for that substance.

3. If an acceptable measured baseline BAF is not available for an inorganic substance and one or more acceptable edible−portion BCFs are available for the substance, a predicted baseline BAF shall be calculated by multiplying the geometric mean of the BCFs times a FCM. The FCM will be 1.0 unless chemical−specific biomagnification data support using a multiplier other than 1.0. The predicted baseline BAF shall be used as the human health BAF for that substance.

(b) *Wildlife.* 1. Measured BAFs and BCFs used to determine wildlife BAFs for inorganic substances shall be based on whole−body freshwater fish and invertebrate data. If it is demonstrated that edible−tissue BAFs or BCFs are similar to whole−body BAFs or BCFs, then these data are acceptable.

2. If one or more field−measured baseline BAFs for an inorganic substance is available from studies conducted in the Great Lakes system with whole body of fish or invertebrates, then the following apply:

a. For each trophic level, a species mean measured baseline BAF shall be calculated as the geometric mean if more than one measured BAF is available for a given species.

b. For each trophic level, the geometric mean of the species mean measured baseline BAFs shall be used as the wildlife BAF for that substance.

3. If an acceptable measured baseline BAF is not available for an inorganic substance and one or more acceptable whole−body BCFs are available for the substance, a predicted baseline BAF shall be calculated by multiplying the geometric mean of the BCFs times a FCM. The FCM shall be 1.0 unless chemical−specific biomagnification data support using a multiplier other than 1.0. The predicted baseline BAF shall be used as the wildlife BAF for that substance.

Note: Copies of 40 CFR Part 132, Appendix B are available for inspection in the offices of the department of natural resources, secretary of state and the legislative reference bureau, Madison, WI or may be purchased from the superintendent of documents, US government printing office, Washington, D.C. 20402.

History: Cr. Register, February, 1989, No. 398, eff. 3−1−89; r. and recr., Register, August, 1997, No. 500, eff. 9−1−97.

NR 105.11 Final plant values. (1) A Final Plant Value (FPV) is the lowest plant value that was obtained with an important aquatic plant species in an acceptable toxicity test for which the concentrations of the test substance were measured and the adverse effect was biologically important. Appropriate measures of the toxicity of the substance to aquatic plants are used to compare the relative sensitivities of aquatic plants and animals.

(2) A plant value is the result of a 96−hour test conducted with an algae or a chronic test conducted with an aquatic vascular plant. A test of the toxicity of a metal to a plant may not be used if the medium contained an excessive amount of a complexing agent, such as EDTA, that might affect the toxicity of the metal. Concentrations of EDTA above 200 μg/L should be considered excessive.

(3) The FPV shall be established by selecting the lowest result from a test with an important aquatic plant species in which the concentrations of test material are measured and the endpoint is biologically important.

Note: Although procedures for conducting and interpreting the results of toxicity tests with plants are not well advanced, results of tests with plants usually indicate that criteria which adequately protect aquatic animals and their uses will, in most cases, also protect aquatic plants and their uses.

History: Cr. Register, August, 1997, No. 500, eff. 9−1−97.

APPENDIX 4.3.8.2-1 Hayward Project Water Quality Monitoring Data

Monitoring Station

Station ID 10005697
Station Name Hayward Lake

Show specific parameter: <Show All>

Sample Results

Previous 1-25 of 313 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Zebra Mussel eDNA and SCUBA Monitoring in Northern Wisconsin	07/22/2019 10:15 AM	Number of Positives, qPCR, eDNA		0			
Zebra Mussel eDNA and SCUBA Monitoring in Northern Wisconsin	07/22/2019 10:15 AM	Number of Positives, qPCR, eDNA		0			
Zebra Mussel eDNA and SCUBA Monitoring in Northern Wisconsin	07/22/2019 10:15 AM	Number of Positives, qPCR, eDNA		0			
Zebra Mussel eDNA and SCUBA Monitoring in Northern Wisconsin	07/22/2019 10:15 AM	Zebra Mussel, eDNA, qPCR		ND	Gene Copies/mL		
Zebra Mussel eDNA and SCUBA Monitoring in Northern Wisconsin	07/22/2019 10:15 AM	Zebra Mussel, eDNA, qPCR		ND	Gene Copies/mL		
Zebra Mussel eDNA and SCUBA Monitoring in Northern Wisconsin	07/22/2019 10:15 AM	Zebra Mussel, eDNA, qPCR		ND	Gene Copies/mL		
Satellite Lake Clarity Monitoring 2017	09/12/2017 12:00 AM	Water Clarity - Predicted Secchi Depth Derived from Satellite Imagery		7.240202	FEET		
Satellite Lake Clarity Monitoring 2017	09/12/2017 12:00 AM	Satellite derived water clarity greater than max depth of lake		N			
Satellite Lake Clarity Monitoring 2016	10/03/2016 12:00 AM	Water Clarity - Predicted Secchi Depth Derived from Satellite Imagery		4.21752735997	FEET		
Satellite Lake Clarity Monitoring 2016	10/03/2016 12:00 AM	Satellite derived water clarity greater than max depth of lake		N			
Satellite Lake Clarity Monitoring 2015	09/15/2015 12:00 AM	Water Clarity - Predicted Secchi Depth Derived from Satellite Imagery		7.57850352663	FEET		
Satellite Lake Clarity Monitoring 2015	09/15/2015 12:00 AM	Satellite derived water clarity greater than max depth of lake		N			
Satellite Lake Clarity Monitoring 2015	06/27/2015 12:00 AM	Water Clarity - Predicted Secchi Depth Derived from Satellite Imagery		8.33594486208	FEET		
Satellite Lake Clarity Monitoring 2015	06/27/2015 12:00 AM	Satellite derived water clarity greater than max depth of lake		N			
Satellite Lake Clarity Monitoring 2014	09/28/2014 12:00 AM	Water Clarity - Predicted Secchi Depth Derived from Satellite Imagery		5.638543	FEET		
Satellite Lake Clarity Monitoring 2014	09/28/2014 12:00 AM	Satellite derived water clarity greater than max depth of lake		N			
Satellite Lake Clarity Monitoring 2014	08/03/2014 12:00 AM	Water Clarity - Predicted Secchi Depth Derived from Satellite Imagery		6.510827	FEET		
Satellite Lake Clarity Monitoring 2014	08/03/2014 12:00 AM	Satellite derived water clarity greater than max depth of lake		N			
Satellite Lake Clarity Monitoring 2014	07/10/2014 12:00 AM	Water Clarity - Predicted Secchi Depth Derived from Satellite Imagery		6.46573	FEET		
Satellite Lake Clarity Monitoring 2014	07/10/2014 12:00 AM	Satellite derived water clarity greater than		N			

		max depth of lake		
Satellite Lake Clarity Monitoring 2013	09/25/2013 12:00 AM	Water Clarity - Predicted Secchi Depth Derived from Satellite Imagery	8.3044996	FEET
Satellite Lake Clarity Monitoring 2013	09/25/2013 12:00 AM	Satellite derived water clarity greater than max depth of lake	N	
DNR AIS Monitoring -Sawyer County (Spiny Waterflea and Zebra Mussel Veliger Tows)	08/13/2013 10:00 AM	FISHHOOK WATER FLEA	No	
DNR AIS Monitoring -Sawyer County (Spiny Waterflea and Zebra Mussel Veliger Tows)	08/13/2013 10:00 AM	SPINY WATER FLEA	No	
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Species Name	Chinese Mystery Snail	

Monitoring Station

Station ID 10005697
Station Name Hayward Lake

Show specific parameter: <Show All>

Sample Results

Previous 26-50 of 313 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Species Name		Eurasian Water-Milfoil			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Species Name		Eurasian Water-Milfoil			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Species Name		Eurasian Water-Milfoil			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Species Name		Eurasian Water-Milfoil			
DNR AIS Monitoring -Sawyer County (Spiny Waterflea and Zebra Mussel Veliger Tows)	08/13/2013 10:00 AM	ZEBRA MUSSEL, VELIGER		No			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Water Flea Tow Method		oblique tows (thermocline to surface)			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Water Flea Tow Method		oblique tows (thermocline to surface)			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Water Flea Tow Method		oblique tows (thermocline to surface)			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Diameter of zooplankton net opening		50cm			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Diameter of zooplankton net opening		50cm			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Diameter of zooplankton net opening		50cm			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Diameter of zooplankton net opening		50cm			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Diameter of zooplankton net opening		50cm			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Diameter of zooplankton net opening		50cm			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Latitude of sample		46.0104			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Latitude of sample		46.0052			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Latitude of sample		46.0133			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Latitude of sample		46.0058			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Latitude of sample		46.0094			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Latitude of sample		46.00916			
Baseline Statewide Monitoring - Aquatic Invasive	08/13/2013	Longitude of		-91.47939			

Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	10:00 AM	sample	
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Longitude of sample	-91.4765
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Longitude of sample	-91.4754
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Longitude of sample	-91.4611
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Longitude of sample	-91.4574

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Longitude of sample		-91.4783			
DNR AIS Monitoring -Sawyer County (Spiny Waterflea and Zebra Mussel Veliger Tows)	08/13/2013 10:00 AM	Have you consolidated all of your samples into one composite bottle?		Yes			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Have you consolidated all of your samples into one composite bottle?		YES			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Have you consolidated all of your samples into one composite bottle?		YES			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Have you consolidated all of your samples into one composite bottle?		YES			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Have you consolidated all of your samples into one composite bottle?		YES			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Have you consolidated all of your samples into one composite bottle?		YES			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Have you consolidated all of your samples into one composite bottle?		YES			
DNR AIS Monitoring -Sawyer County (Spiny Waterflea and Zebra Mussel Veliger Tows)	08/13/2013 10:00 AM	Volume of sample that was analyzed (ml)		50	ML		
DNR AIS Monitoring -Sawyer County (Spiny Waterflea and Zebra Mussel Veliger Tows)	08/13/2013 10:00 AM	Volume of sample that was analyzed (ml)		30	ML		
DNR AIS Monitoring -Sawyer County (Spiny Waterflea and Zebra Mussel Veliger Tows)	08/13/2013 10:00 AM	Date sample was analyzed		10/10/13			
DNR AIS Monitoring -Sawyer County (Spiny Waterflea and Zebra Mussel Veliger Tows)	08/13/2013 10:00 AM	Date sample was analyzed		10/10/13			
DNR AIS Monitoring -Sawyer County (Spiny Waterflea and Zebra Mussel Veliger Tows)	08/13/2013 10:00 AM	Name of plankton sample analyst		Caitlin Carlson			
DNR AIS Monitoring -Sawyer County (Spiny Waterflea and Zebra Mussel Veliger Tows)	08/13/2013 10:00 AM	Name of plankton sample analyst		Caitlin Carlson			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	SECCHI DEPTH - FEET		10	FEET		
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Total Paid Hours Spent		7.5			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Total Volunteer Hours Spent		0			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Additional Comments about Aquatic Invasives Monitoring		possible hybrid EWM			
Baseline Statewide Monitoring - Aquatic	08/13/2013	Additional Comments		possible			

Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	10:00 AM	about Aquatic Invasives Monitoring	hybrid EWM
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Additional Comments about Aquatic Invasives Monitoring	Possible Hybrid EWM with EWM
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Additional Comments about Aquatic Invasives Monitoring	none
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Additional Comments about Aquatic Invasives Monitoring	possible hybrid EWM and EWM
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Did you look for purple loosestrife?	Yes
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Did you look for Phragmites?	Yes
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Did you look for Flowering Rush?	Yes

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Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Did you look for Hydrilla?		Yes			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Did you look for Brazilian waterweed?		Yes			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Did you look for Eurasian Water-Milfoil?		Yes			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Did you look for Curly-Leaf Pondweed?		Yes			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Did you look for Yellow Floating Heart?		Yes			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Did you look for Quagga Mussels?		Yes			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Did you look for Zebra Mussels?		Yes			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Did you look for New Zealand Mudsnails?		Yes			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Did you look for Red Swamp Crayfish?		Yes			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Did you look for Faucet Snails?		Yes			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Site Number		Search Site 4			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Site Number		Search Site 3			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Site Number		Search Site 2			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Site Number		Search Site 1			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Site Number		Boat Landing 1			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Site Number		Search Site 5			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Density of Aquatic Invasive Species (1)		1			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Density of Aquatic Invasive Species (1)		2			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Density of Aquatic Invasive Species (1)		3			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Density of Aquatic Invasive Species (1)		4			

Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Density of Aquatic Invasive Species (1)	4
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Site Name	OS
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Site Name	DS
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Site Name	DH
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Site Name	OS

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Site Name		DH-2			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Site Name		DH-1			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Did you look for Chinese mystery snails?		Yes			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Did you look for Banded mystery snails?		Yes			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Did you snorkel the search sites?		NO			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Did you snorkel the search sites?		NO			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Did you snorkel the search sites?		NO			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Did you snorkel the search sites?		NO			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Did you snorkel the search sites?		NO			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Did you snorkel the search sites?		NO			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Has Ethanol been added to the sample?		YES			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Has Ethanol been added to the sample?		YES			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Has Ethanol been added to the sample?		YES			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Has Ethanol been added to the sample?		YES			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Has Ethanol been added to the sample?		YES			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Has Ethanol been added to the sample?		YES			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	If you did not snorkel, why not?		Turbid Water			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	If you did not snorkel, why not?		Turbid water			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	If you did not snorkel, why not?		Turbid Water			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	If you did not snorkel, why not?		Trubid Water			

Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	If you did not snorkel, why not?	Turbid water	
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	If you did not snorkel, why not?	Turbid Water	
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Depth Sampled	12	FEET
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Depth Sampled	12	FEET
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Depth Sampled	12	FEET

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Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Depth Sampled		15	FEET		
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Depth Sampled		15	FEET		
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Depth Sampled		15	FEET		
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2013 , AIS Occurrence Records - 'Other' Records Reviewed	08/13/2013 10:00 AM	Did you look for Asiatic clam (Corbicula)?		Yes			
Satellite Lake Clarity Monitoring 2013	07/23/2013 12:00 AM	Water Clarity - Predicted Secchi Depth Derived from Satellite Imagery		5.9580102	FEET		
Satellite Lake Clarity Monitoring 2013	07/23/2013 12:00 AM	Satellite derived water clarity greater than max depth of lake		N			
Satellite Lake Clarity Monitoring 2012	09/15/2012 12:00 AM	Water Clarity - Predicted Secchi Depth Derived from Satellite Imagery		8.40856424029925	FEET		
Satellite Lake Clarity Monitoring 2012	09/15/2012 12:00 AM	Satellite derived water clarity greater than max depth of lake		N			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Species Name		Eurasian Water-Milfoil			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Species Name		Chinese Mystery Snail			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Species Name		Chinese Mystery Snail			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Species Name		Chinese Mystery Snail			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Species Name		Eurasian Water-Milfoil			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Species Name		Eurasian Water-Milfoil			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Species Name		Eurasian Water-Milfoil			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Water Flea Tow Method		3 horizontal tows (near surface)			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Diameter of zooplankton net opening		50cm			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Diameter of zooplankton net opening		50cm			

Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Latitude of sample	46.00951
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Latitude of sample	46.0105
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Latitude of sample	46.00313
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Latitude of sample	46.00916
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Latitude of sample	46.00914
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Latitude of sample	46.01224
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Latitude of sample	46.00812

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Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Latitude of sample		46.00680			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Latitude of sample		46.01288			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Longitude of sample		-91.45903			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Longitude of sample		-91.47981			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Longitude of sample		-91.46704			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Longitude of sample		-91.45711			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Longitude of sample		-91.46062			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Longitude of sample		-91.47739			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Longitude of sample		-91.47931			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Longitude of sample		-91.47687			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Longitude of sample		-91.45668			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Have you consolidated all of your samples into one composite bottle?		YES			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Have you consolidated all of your samples into one composite bottle?		YES			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	SECCHI DEPTH - FEET		10.5	FEET		
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Did you look for purple loosestrife?		Yes			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Did you look for Phragmites?		Yes			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Did you look for Flowering Rush?		Yes			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Did you look for Hydrilla?		Yes			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Did you look for Brazilian waterweed?		Yes			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Did you look for Eurasian Water-Milfoil?		Yes			

Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Did you look for Curly-Leaf Pondweed?	Yes
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Did you look for Yellow Floating Heart?	Yes
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Did you look for Quagga Mussels?	Yes
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Did you look for Zebra Mussels?	Yes
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Did you look for New Zealand Mudsnails?	Yes

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Did you look for Red Swamp Crayfish?		Yes			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Did you look for Faucet Snails?		Yes			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Site Number		Search Site 2			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Site Number		Boat Landing 1			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Site Number		Search Site 1			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Site Number		Search Site 3			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Site Number		Search Site 4			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Site Number		Search Site 5			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Site Number		Meander Survey 1			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Site Number		Meander Survey 2			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Site Number		Meander Survey 3			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Density of Aquatic Invasive Species (1)		1			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Density of Aquatic Invasive Species (1)		2			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Density of Aquatic Invasive Species (1)		4			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Density of Aquatic Invasive Species (1)		4			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Density of Aquatic Invasive Species (1)		4			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Density of Aquatic Invasive Species (1)		2			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Species Name (2)		Chinese Mystery Snail			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Species Name (2)		Eurasian Water-Milfoil			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Density of Aquatic Invasive Species (2)		5			

Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Did you look for Chinese mystery snails?	Yes
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Did you look for Banded mystery snails?	Yes
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Did you snorkel the search sites?	NO
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Species 1 - Number sites found at beyond the predefined sampling points	3
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Species 2 - Number sites found at beyond the predefined sampling points	4

Monitoring Station

Station ID 10005697
Station Name Hayward Lake

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Sample Results

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Depth of Sample - Tow 1		14	FEET		
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Depth of Sample - Tow 2		15	FEET		
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Depth of Sample - Tow 3		14	FEET		
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Has Ethanol been added to the sample?		YES			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Has Ethanol been added to the sample?		YES			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	If you did not snorkel, why not?		Blue-Green Bloom			
Baseline Statewide Monitoring - Aquatic Invasive Species Early Detection 2012	09/06/2012 10:00 AM	Did you look for Asiatic clam (Corbicula)?		Yes			
Eurasian water milfoil genetic sampling, AIS Occurrence Records - 'Other' Records Reviewed	09/06/2012 12:00 AM	Species Name		Hybrid Eurasian / Northern Water-Milfoil			
Eurasian water milfoil genetic sampling, AIS Occurrence Records - 'Other' Records Reviewed	09/06/2012 12:00 AM	Additional Comments about Aquatic Invasives Monitoring		1 sample sent, confirmed as HWM			
Eurasian water milfoil genetic sampling, AIS Occurrence Records - 'Other' Records Reviewed	09/06/2012 12:00 AM	Did you look for Eurasian Water-Milfoil?		YES			
Eurasian water milfoil genetic sampling, AIS Occurrence Records - 'Other' Records Reviewed	09/06/2012 12:00 AM	Other species looked for		HWM			
Satellite Lake Clarity Monitoring 2012	08/30/2012 12:00 AM	Water Clarity - Predicted Secchi Depth Derived from Satellite Imagery		7.45214134335214	FEET		
Satellite Lake Clarity Monitoring 2012	08/30/2012 12:00 AM	Satellite derived water clarity greater than max depth of lake		N			
DNR AIS Monitoring -Sawyer County (Spiny Waterflea and Zebra Mussel Veliger Tows)	08/06/2012 12:00 AM	FISHHOOK WATER FLEA		No			
DNR AIS Monitoring -Sawyer County (Spiny Waterflea and Zebra Mussel Veliger Tows)	08/06/2012 12:00 AM	SPINY WATER FLEA		No			
DNR AIS Monitoring -Sawyer County (Spiny Waterflea and Zebra Mussel Veliger Tows)	08/06/2012 12:00 AM	ZEBRA MUSSEL, VELIGER		No			
DNR AIS Monitoring -Sawyer County (Spiny Waterflea and Zebra Mussel Veliger Tows)	08/06/2012 12:00 AM	Have you consolidated all of your samples into one composite bottle?		Yes			
DNR AIS Monitoring -Sawyer County (Spiny Waterflea and Zebra Mussel Veliger Tows)	08/06/2012 12:00 AM	Have you consolidated all of your samples into one composite bottle?		Yes			
DNR AIS Monitoring -Sawyer County (Spiny Waterflea and	08/06/2012 12:00 AM	Volume of sample that was analyzed (ml)		30	ML		

Zebra Mussel Veliger Tows)				
DNR AIS Monitoring -Sawyer County (Spiny Waterflea and Zebra Mussel Veliger Tows)	08/06/2012 12:00 AM	Volume of sample that was analyzed (ml)	30	ML
DNR AIS Monitoring -Sawyer County (Spiny Waterflea and Zebra Mussel Veliger Tows)	08/06/2012 12:00 AM	Date sample was analyzed	11/08/2012	
DNR AIS Monitoring -Sawyer County (Spiny Waterflea and Zebra Mussel Veliger Tows)	08/06/2012 12:00 AM	Date sample was analyzed	11/06/2012	
DNR AIS Monitoring -Sawyer County (Spiny Waterflea and Zebra Mussel Veliger Tows)	08/06/2012 12:00 AM	Name of plankton sample analyst	James Steinke	
DNR AIS Monitoring -Sawyer County (Spiny Waterflea and Zebra Mussel Veliger Tows)	08/06/2012 12:00 AM	Name of plankton sample analyst	James Steinke	
2011 Wisconsin Loon Population Survey	07/16/2011 07:30 AM	Number of loon chicks on this territory today	0	LOON CHICKS

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
2011 Wisconsin Loon Population Survey	07/16/2011 07:30 AM	Number of Adult Loons on Lake		1	LOON ADULTS		
2011 Wisconsin Loon Population Survey	07/16/2011 07:30 AM	Wind/Water Conditions		Calm			
2011 Wisconsin Loon Population Survey	07/16/2011 07:30 AM	Visibility		Excellent			
2011 Wisconsin Loon Population Survey	07/16/2011 07:30 AM	Method of Observation		Motorboat			
2011 Wisconsin Loon Population Survey	07/16/2011 07:30 AM	Equipment Used		Binoculars			
2011 Wisconsin Loon Population Survey	07/16/2011 07:30 AM	Lake Access - Where did you get on the water or find access to view the lake?		Public Boat Landing			
2011 Wisconsin Loon Population Survey	07/16/2011 07:30 AM	Relevant Lake Access Details		Landing at beach behind Fishing Hall of Fame			
2011 Wisconsin Loon Population Survey	07/16/2011 07:30 AM	Did you observe any loons with leg bands?		NO			
2011 Wisconsin Loon Population Survey	07/16/2011 07:30 AM	Cloud Cover		Partly Cloudy			
AIS Incident Reports - Sawyer County	06/30/2011 12:00 AM	Which aquatic invasive did you find?		Eurasian Water-milfoil			
AIS Incident Reports - Sawyer County	06/30/2011 12:00 AM	Approximately how large an area do the plants occupy?		A Few Plants			
AIS Incident Reports - Sawyer County	06/30/2011 12:00 AM	Was the plant floating or rooted?		Rooted			
AIS Incident Reports - Sawyer County	06/30/2011 12:00 AM	Did you collect a sample and bring it to a DNR office? If so, which office?		Did not take sample to a DNR office			
AIS Incident Reports - Sawyer County	06/30/2011 12:00 AM	Other office		Will send voucher to Freckmann			
AIS Incident Reports - Sawyer County	06/30/2011 12:00 AM	Observer Phone Number		715-634-6463			
AIS Incident Reports - Sawyer County	06/30/2011 12:00 AM	Observer Email		invasives@sawyercountygov.org			
AIS Incident Reports - Sawyer County	06/30/2011 12:00 AM	Person who verified occurence		Dr. Robert Freckmann (Aquatic Plants)			
Satellite Lake Clarity Monitoring 2010	09/01/2010 12:00 AM	Water Clarity - Predicted Secchi Depth Derived from Satellite Imagery		7.26717100622051	FEET		
Satellite Lake Clarity Monitoring 2010	09/01/2010 12:00 AM	Satellite derived water clarity greater than max depth of lake		N			
Satellite Lake Clarity Monitoring 2010	08/16/2010 12:00 AM	Water Clarity - Predicted Secchi Depth Derived from Satellite Imagery		6.86770210067854	FEET		

Satellite Lake Clarity Monitoring 2010	08/16/2010 12:00 AM	Satellite derived water clarity greater than max depth of lake	N	
Satellite Lake Clarity Monitoring 2010	07/15/2010 12:00 AM	Water Clarity - Predicted Secchi Depth Derived from Satellite Imagery	6.45295360913611	FEET
Satellite Lake Clarity Monitoring 2010	07/15/2010 12:00 AM	Satellite derived water clarity greater than max depth of lake	N	
Satellite Lake Clarity Monitoring 2010	06/29/2010 12:00 AM	Water Clarity - Predicted Secchi Depth Derived from Satellite Imagery	5.01988670757942	FEET
Satellite Lake Clarity Monitoring 2010	06/29/2010 12:00 AM	Satellite derived water clarity greater than max depth of lake	N	

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
AIS Incident Reports - Sawyer County	12/31/2009 12:00 AM	Species Name		Chinese Mystery Snail			
AIS Incident Reports - Sawyer County	12/31/2009 12:00 AM	Was the specimen confirmed as species?		Yes			
Satellite Lake Clarity Monitoring 2009	09/30/2009 12:00 AM	Water Clarity - Predicted Secchi Depth Derived from Satellite Imagery		10.835673	FEET		
Satellite Lake Clarity Monitoring 2009	09/30/2009 12:00 AM	Satellite derived water clarity greater than max depth of lake		N			
Satellite Lake Clarity Monitoring 2009	09/14/2009 12:00 AM	Water Clarity - Predicted Secchi Depth Derived from Satellite Imagery		8.047231	FEET		
Satellite Lake Clarity Monitoring 2009	09/14/2009 12:00 AM	Satellite derived water clarity greater than max depth of lake		N			
Satellite Lake Clarity Monitoring 2007-2008	06/29/2007 12:00 AM	Water Clarity - Predicted Secchi Depth Derived from Satellite Imagery		8.60	FEET		
AIS Incident Reports - Sawyer County	12/30/2006 12:00 AM	Species Name		Curly-Leaf Pondweed			
AIS Incident Reports - Sawyer County	12/30/2006 12:00 AM	Was the specimen confirmed as species?		Yes			
AIS Incident Reports - Sawyer County	12/30/2006 12:00 AM	Herbarium or museum where specimen is		University of Wisconsin-Stevens Point Freckmann Herbarium			
AIS Incident Reports - Sawyer County	05/08/2006 12:00 AM	Species Name		Curly-Leaf Pondweed			
AIS Incident Reports - Sawyer County	05/08/2006 12:00 AM	Was the specimen confirmed as species?		Yes			
AIS Incident Reports - Sawyer County	05/08/2006 12:00 AM	Herbarium or museum where specimen is		Wisconsin State Herbarium, University of Wisconsin - Madison			
Satellite Lake Clarity Monitoring 2003-2005	09/27/2005 12:00 AM	Water Clarity - Predicted Secchi Depth Derived from Satellite Imagery		7.81	FEET		
Fish Contaminant Monitoring: BASELINE MONITORING	05/20/2005 12:00 AM	MERCURY	NORTHERN PIKE	.53	UG/G		
Fish Contaminant Monitoring: BASELINE MONITORING	05/20/2005 12:00 AM	NUMBER OF INDIVIDUALS IN THE SAMPLE		1			
Fish Contaminant Monitoring: BASELINE MONITORING	05/20/2005 12:00 AM	FISH LENGTH, TOTAL INCHES		31	IN		
Fish Contaminant Monitoring: BASELINE MONITORING	05/20/2005 12:00 AM	FISH, WHOLE, WET WEIGHT KILOGRAMS		2.956	KILOGRAMS		
Satellite Lake Clarity Monitoring 2003-2005	09/16/2004 12:00 AM	Water Clarity - Predicted Secchi Depth Derived from Satellite Imagery		7.63	FEET		
Fish Contaminant Monitoring: ADVISORY/BASELINE	10/03/2001 12:00 AM	MERCURY	NORTHERN PIKE	.34	UG/G		
Fish Contaminant Monitoring: ADVISORY/BASELINE	10/03/2001 12:00 AM	MERCURY	NORTHERN PIKE	.32	UG/G		
Fish Contaminant	10/03/2001	MERCURY	NORTHERN	.2	UG/G		

Monitoring: ADVISORY/BASELINE	12:00 AM		PIKE		
Fish Contaminant Monitoring: ADVISORY/BASELINE	10/03/2001 12:00 AM	MERCURY	NORTHERN PIKE	.24	UG/G
Fish Contaminant Monitoring: ADVISORY/BASELINE	10/03/2001 12:00 AM	MERCURY	NORTHERN PIKE	.22	UG/G
Fish Contaminant Monitoring: ADVISORY/BASELINE	10/03/2001 12:00 AM	MERCURY	NORTHERN PIKE	.32	UG/G

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Fish Contaminant Monitoring: ADVISORY/BASELINE	10/03/2001 12:00 AM	MERCURY	NORTHERN PIKE	.39	UG/G		
Fish Contaminant Monitoring: ADVISORY/BASELINE	10/03/2001 12:00 AM	MERCURY	NORTHERN PIKE	.49	UG/G		
Fish Contaminant Monitoring: ADVISORY/BASELINE	10/03/2001 12:00 AM	NUMBER OF INDIVIDUALS IN THE SAMPLE		1			
Fish Contaminant Monitoring: ADVISORY/BASELINE	10/03/2001 12:00 AM	NUMBER OF INDIVIDUALS IN THE SAMPLE		1			
Fish Contaminant Monitoring: ADVISORY/BASELINE	10/03/2001 12:00 AM	NUMBER OF INDIVIDUALS IN THE SAMPLE		1			
Fish Contaminant Monitoring: ADVISORY/BASELINE	10/03/2001 12:00 AM	NUMBER OF INDIVIDUALS IN THE SAMPLE		1			
Fish Contaminant Monitoring: ADVISORY/BASELINE	10/03/2001 12:00 AM	NUMBER OF INDIVIDUALS IN THE SAMPLE		1			
Fish Contaminant Monitoring: ADVISORY/BASELINE	10/03/2001 12:00 AM	NUMBER OF INDIVIDUALS IN THE SAMPLE		1			
Fish Contaminant Monitoring: ADVISORY/BASELINE	10/03/2001 12:00 AM	NUMBER OF INDIVIDUALS IN THE SAMPLE		1			
Fish Contaminant Monitoring: ADVISORY/BASELINE	10/03/2001 12:00 AM	NUMBER OF INDIVIDUALS IN THE SAMPLE		1			
Fish Contaminant Monitoring: ADVISORY/BASELINE	10/03/2001 12:00 AM	SPECIES SEX CODE		U			
Fish Contaminant Monitoring: ADVISORY/BASELINE	10/03/2001 12:00 AM	SPECIES SEX CODE		F			
Fish Contaminant Monitoring: ADVISORY/BASELINE	10/03/2001 12:00 AM	SPECIES SEX CODE		M			
Fish Contaminant Monitoring: ADVISORY/BASELINE	10/03/2001 12:00 AM	SPECIES SEX CODE		F			
Fish Contaminant Monitoring: ADVISORY/BASELINE	10/03/2001 12:00 AM	SPECIES SEX CODE		U			
Fish Contaminant Monitoring: ADVISORY/BASELINE	10/03/2001 12:00 AM	SPECIES SEX CODE		M			
Fish Contaminant Monitoring: ADVISORY/BASELINE	10/03/2001 12:00 AM	SPECIES SEX CODE		U			
Fish Contaminant Monitoring: ADVISORY/BASELINE	10/03/2001 12:00 AM	SPECIES SEX CODE		F			
Fish Contaminant Monitoring: ADVISORY/BASELINE	10/03/2001 12:00 AM	FISH LENGTH, TOTAL INCHES		19.2	IN		
Fish Contaminant Monitoring: ADVISORY/BASELINE	10/03/2001 12:00 AM	FISH LENGTH, TOTAL INCHES		26	IN		
Fish Contaminant Monitoring: ADVISORY/BASELINE	10/03/2001 12:00 AM	FISH LENGTH, TOTAL INCHES		22	IN		
Fish Contaminant Monitoring: ADVISORY/BASELINE	10/03/2001 12:00 AM	FISH LENGTH, TOTAL INCHES		22	IN		
Fish Contaminant Monitoring: ADVISORY/BASELINE	10/03/2001 12:00 AM	FISH LENGTH, TOTAL INCHES		14.6	IN		
Fish Contaminant Monitoring: ADVISORY/BASELINE	10/03/2001 12:00 AM	FISH LENGTH, TOTAL INCHES		22.3	IN		
Fish Contaminant Monitoring: ADVISORY/BASELINE	10/03/2001 12:00 AM	FISH LENGTH, TOTAL INCHES		16.2	IN		

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Fish Contaminant Monitoring: ADVISORY/BASELINE	10/03/2001 12:00 AM	FISH LENGTH, TOTAL INCHES		25	IN		
Fish Contaminant Monitoring: ADVISORY/BASELINE	10/03/2001 12:00 AM	FISH, WHOLE, WET WEIGHT KILOGRAMS		1.58	KILOGRAMS		
Fish Contaminant Monitoring: ADVISORY/BASELINE	10/03/2001 12:00 AM	FISH, WHOLE, WET WEIGHT KILOGRAMS		.29	KILOGRAMS		
Fish Contaminant Monitoring: ADVISORY/BASELINE	10/03/2001 12:00 AM	FISH, WHOLE, WET WEIGHT KILOGRAMS		1.23	KILOGRAMS		
Fish Contaminant Monitoring: ADVISORY/BASELINE	10/03/2001 12:00 AM	FISH, WHOLE, WET WEIGHT KILOGRAMS		.62	KILOGRAMS		
Fish Contaminant Monitoring: ADVISORY/BASELINE	10/03/2001 12:00 AM	FISH, WHOLE, WET WEIGHT KILOGRAMS		1.57	KILOGRAMS		
Fish Contaminant Monitoring: ADVISORY/BASELINE	10/03/2001 12:00 AM	FISH, WHOLE, WET WEIGHT KILOGRAMS		1.06	KILOGRAMS		
Fish Contaminant Monitoring: ADVISORY/BASELINE	10/03/2001 12:00 AM	FISH, WHOLE, WET WEIGHT KILOGRAMS		.25	KILOGRAMS		
Fish Contaminant Monitoring: ADVISORY/BASELINE	10/03/2001 12:00 AM	FISH, WHOLE, WET WEIGHT KILOGRAMS		.95	KILOGRAMS		
Satellite Lake Clarity Monitoring 1999-2001	08/07/2001 12:00 PM	Water Clarity - Predicted Secchi Depth Derived from Satellite Imagery		2.14	M		
Satellite Lake Clarity Monitoring 1999-2001	08/07/2001 12:00 PM	Water Clarity - Predicted Secchi Depth Derived from Satellite Imagery		1.88	M		
Satellite Lake Clarity Monitoring 1999-2001	09/05/2000 12:00 PM	Water Clarity - Predicted Secchi Depth Derived from Satellite Imagery		2.07	M		
Satellite Lake Clarity Monitoring 1999-2001	09/05/2000 12:00 PM	Water Clarity - Predicted Secchi Depth Derived from Satellite Imagery		2.50	M		

LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/13/2015 04:00 PM	SECCHI DEPTH - FEET	6.75	FEET
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/13/2015 04:00 PM	WATER COLUMN APPEARANCE	CLEAR	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/13/2015 04:00 PM	WATER COLOR (VISUAL)	BROWN	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/13/2015 04:00 PM	USER PERCEPTION OF WATER QUALITY	3-Enjoyment somewhat impaired (algae)	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/13/2015 04:00 PM	WATER LEVEL (VISUAL)	NORMAL	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/13/2015 04:00 PM	SECCHI DEPTH HIT BOTTOM	YES	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/13/2015 10:30 AM	Total Time Spent At Landing by paid inspectors	2	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/13/2015 10:30 AM	Boat was entering landing	1	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/13/2015 10:30 AM	Have you been contacted by a watercraft inspector this season? - No	1	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/13/2015 10:30 AM	Are you willing to answer a few questions? - Yes	1	

Monitoring Station

Station ID 10019085
Station Name Hayward Lake -- Access Off 2nd St.

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/14/2015 03:00 PM	Boat was entering landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/14/2015 03:00 PM	Boat was leaving landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/14/2015 03:00 PM	Have you been contacted by a watercraft inspector this season? - Yes		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/14/2015 03:00 PM	Have you been contacted by a watercraft inspector this season? - No		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/14/2015 03:00 PM	Are you willing to answer a few questions? - Yes		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/14/2015 03:00 PM	Was boat used during past 5 days on diff wbody? - Don't Know		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/14/2015 03:00 PM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/14/2015 03:00 PM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Agree		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/14/2015 10:00 AM	Total Time Spent At Landing by paid inspectors		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/14/2015 10:00 AM	Number of People Contacted		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/14/2015 10:00 AM	Boat was entering landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/14/2015 10:00 AM	Have you been contacted by a watercraft inspector this season? - Yes		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/14/2015 10:00 AM	Are you willing to answer a few questions? - Yes		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/14/2015 10:00 AM	Was boat used during past 5 days on diff wbody? - Don't Know		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/14/2015 10:00 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree		2			

LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/13/2015 04:00 PM	SECCHI DEPTH - FEET	6.75	FEET
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/13/2015 04:00 PM	WATER COLUMN APPEARANCE	CLEAR	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/13/2015 04:00 PM	WATER COLOR (VISUAL)	BROWN	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/13/2015 04:00 PM	USER PERCEPTION OF WATER QUALITY	3-Enjoyment somewhat impaired (algae)	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/13/2015 04:00 PM	WATER LEVEL (VISUAL)	NORMAL	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/13/2015 04:00 PM	SECCHI DEPTH HIT BOTTOM	YES	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/13/2015 10:30 AM	Total Time Spent At Landing by paid inspectors	2	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/13/2015 10:30 AM	Boat was entering landing	1	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/13/2015 10:30 AM	Have you been contacted by a watercraft inspector this season? - No	1	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/13/2015 10:30 AM	Are you willing to answer a few questions? - Yes	1	

Monitoring Station

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	09/01/2015 09:30 AM	Was boat used during past 5 days on diff wbody? - No		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	09/01/2015 09:30 AM	Boat was entering landing		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	09/01/2015 09:30 AM	Boat was leaving landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	09/01/2015 09:30 AM	Have you been contacted by a watercraft inspector this season? - Yes		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	09/01/2015 09:30 AM	Are you willing to answer a few questions? - Yes		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	09/01/2015 09:30 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	09/01/2015 09:30 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Agree		3			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/31/2015 12:30 PM	Total Time Spent At Landing by paid inspectors		3			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/31/2015 12:30 PM	Number of People Contacted		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/31/2015 12:30 PM	Was boat used during past 5 days on diff wbody? - Yes		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/31/2015 12:30 PM	Was boat used during past 5 days on diff wbody? - No		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/31/2015 12:30 PM	Boat was entering landing		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/31/2015 12:30 PM	Waterbody Name Boat Last Visited (1)		Stone Lake			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/31/2015 12:30 PM	County Boat Last Visited (1)		Sawyer County			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/31/2015 12:30 PM	WBIC Boat Last Visited (1)		2391200			

LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/31/2015 12:30 PM	Have you been contacted by a watercraft inspector this season? - Yes	2
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/31/2015 12:30 PM	Are you willing to answer a few questions? - Yes	2
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/31/2015 12:30 PM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree	2
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/30/2015 01:00 PM	Total Time Spent At Landing by paid inspectors	4
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/30/2015 01:00 PM	Number of People Contacted	2
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/30/2015 01:00 PM	Was boat used during past 5 days on diff wbody? - No	2
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/30/2015 01:00 PM	Boat was entering landing	2
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/30/2015 01:00 PM	Have you been contacted by a watercraft inspector this season? - Yes	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/30/2015 01:00 PM	Have you been contacted by a watercraft inspector this season? - No	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/30/2015 01:00 PM	Are you willing to answer a few questions? - Yes	2

Monitoring Station

Station ID 10019085
Station Name Hayward Lake -- Access Off 2nd St.

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Sample Results

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/30/2015 01:00 PM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/29/2015 04:30 PM	Total Time Spent At Landing by paid inspectors		4			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/29/2015 04:30 PM	Number of People Contacted		3			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/29/2015 04:30 PM	Was boat used during past 5 days on diff wbody? - No		3			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/29/2015 04:30 PM	Boat was leaving landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/29/2015 04:30 PM	Have you been contacted by a watercraft inspector this season? - Yes		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/29/2015 04:30 PM	Have you been contacted by a watercraft inspector this season? - No		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/29/2015 04:30 PM	Are you willing to answer a few questions? - Yes		3			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/29/2015 04:30 PM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/29/2015 04:30 PM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Agree		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/28/2015 08:30 AM	Total Time Spent At Landing by paid inspectors		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/28/2015 08:30 AM	Number of People Contacted		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/28/2015 08:30 AM	Was boat used during past 5 days on diff wbody? - No		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/28/2015 08:30 AM	Boat was leaving landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/28/2015 08:30 AM	Have you been contacted by a watercraft inspector this season? - Yes		1			

LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/28/2015 08:30 AM	Are you willing to answer a few questions? - Yes	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/28/2015 08:30 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/27/2015 09:30 AM	Total Time Spent At Landing by paid inspectors	3.5
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/27/2015 09:30 AM	Number of People Contacted	3
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/27/2015 09:30 AM	Was boat used during past 5 days on diff wbody? - Yes	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/27/2015 09:30 AM	Was boat used during past 5 days on diff wbody? - No	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/27/2015 09:30 AM	Boat was entering landing	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/27/2015 09:30 AM	Boat was leaving landing	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/27/2015 09:30 AM	Waterbody Name Boat Last Visited (1)	NELSON LAKE
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/27/2015 09:30 AM	County Boat Last Visited (1)	Sawyer County

Monitoring Station

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/27/2015 09:30 AM	WBIC Boat Last Visited (1)		2704200			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/27/2015 09:30 AM	Have you been contacted by a watercraft inspector this season? - Yes		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/27/2015 09:30 AM	Have you been contacted by a watercraft inspector this season? - No		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/27/2015 09:30 AM	Are you willing to answer a few questions? - Yes		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/27/2015 09:30 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/27/2015 09:30 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Agree		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/26/2015 10:30 AM	Total Time Spent At Landing by paid inspectors		4			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/26/2015 10:30 AM	Number of People Contacted		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/26/2015 10:30 AM	Was boat used during past 5 days on diff wbody? - No		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/26/2015 10:30 AM	Boat was entering landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/26/2015 10:30 AM	Have you been contacted by a watercraft inspector this season? - Yes		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/26/2015 10:30 AM	Are you willing to answer a few questions? - Yes		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/26/2015 10:30 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Agree		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/25/2015 11:00 AM	Total Time Spent At Landing by paid inspectors		4			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/25/2015 11:00 AM	Number of People Contacted		1			

LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/25/2015 11:00 AM	Boat was entering landing	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/25/2015 11:00 AM	Have you been contacted by a watercraft inspector this season? - Yes	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/25/2015 11:00 AM	Are you willing to answer a few questions? - Yes	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/25/2015 11:00 AM	Was boat used during past 5 days on diff wbody? - Don't Know	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/25/2015 11:00 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/24/2015 11:30 AM	Total Time Spent At Landing by paid inspectors	3
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/24/2015 11:30 AM	Number of People Contacted	4
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/24/2015 11:30 AM	Was boat used during past 5 days on diff wbody? - No	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/24/2015 11:30 AM	Boat was entering landing	2
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/24/2015 11:30 AM	Boat was leaving landing	2

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/24/2015 11:30 AM	Have you been contacted by a watercraft inspector this season? - Yes		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/24/2015 11:30 AM	Have you been contacted by a watercraft inspector this season? - No		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/24/2015 11:30 AM	Are you willing to answer a few questions? - Yes		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/24/2015 11:30 AM	Are you willing to answer a few questions? - No		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/24/2015 11:30 AM	Was boat used during past 5 days on diff wbody? - Don't Know		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/24/2015 11:30 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Agree		4			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/22/2015 09:00 AM	Total Time Spent At Landing by paid inspectors		3			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/22/2015 09:00 AM	Number of People Contacted		3			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/22/2015 09:00 AM	Was boat used during past 5 days on diff wbody? - No		3			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/22/2015 09:00 AM	Boat was entering landing		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/22/2015 09:00 AM	Boat was leaving landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/22/2015 09:00 AM	Have you been contacted by a watercraft inspector this season? - Yes		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/22/2015 09:00 AM	Have you been contacted by a watercraft inspector this season? - No		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/22/2015 09:00 AM	Are you willing to answer a few questions? - Yes		3			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/22/2015 09:00 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree		3			

LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/22/2015 09:00 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Agree	3
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/21/2015 09:00 AM	Total Time Spent At Landing by paid inspectors	2
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/21/2015 09:00 AM	Number of People Contacted	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/21/2015 09:00 AM	Boat was entering landing	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/21/2015 09:00 AM	Boat was leaving landing	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/21/2015 09:00 AM	Have you been contacted by a watercraft inspector this season? - Yes	2
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/21/2015 09:00 AM	Are you willing to answer a few questions? - Yes	2
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/21/2015 09:00 AM	Was boat used during past 5 days on diff wbody? - Don't Know	2
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/21/2015 09:00 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Agree	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/20/2015 12:00 PM	Total Time Spent At Landing by paid inspectors	3

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LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/20/2015 12:00 PM	Number of People Contacted		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/20/2015 12:00 PM	Was boat used during past 5 days on diff wbody? - No		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/20/2015 12:00 PM	Boat was entering landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/20/2015 12:00 PM	Have you been contacted by a watercraft inspector this season? - Yes		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/20/2015 12:00 PM	Are you willing to answer a few questions? - Yes		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/20/2015 12:00 PM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/19/2015 01:00 PM	Total Time Spent At Landing by paid inspectors		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/19/2015 01:00 PM	Number of People Contacted		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/19/2015 01:00 PM	Was boat used during past 5 days on diff wbody? - Yes		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/19/2015 01:00 PM	Boat was leaving landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/19/2015 01:00 PM	Waterbody Name Boat Last Visited (1)		St. Croix River			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/19/2015 01:00 PM	County Boat Last Visited (1)		Douglas County			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/19/2015 01:00 PM	WBIC Boat Last Visited (1)		2740300			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/19/2015 01:00 PM	Have you been contacted by a watercraft inspector this season? - Yes		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/19/2015 01:00 PM	Are you willing to answer a few questions? - Yes		1			

LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/19/2015 01:00 PM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/19/2015 10:00 AM	Total Time Spent At Landing by paid inspectors	2
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/19/2015 10:00 AM	Boat was entering landing	0
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/19/2015 10:00 AM	Boat was leaving landing	0
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/18/2015 12:00 PM	Total Time Spent At Landing by paid inspectors	5
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/18/2015 12:00 PM	Number of People Contacted	2
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/18/2015 12:00 PM	Was boat used during past 5 days on diff wbody? - No	2
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/18/2015 12:00 PM	Boat was entering landing	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/18/2015 12:00 PM	Boat was leaving landing	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/18/2015 12:00 PM	Have you been contacted by a watercraft inspector this season? - Yes	1

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/18/2015 12:00 PM	Have you been contacted by a watercraft inspector this season? - No		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/18/2015 12:00 PM	Are you willing to answer a few questions? - Yes		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/18/2015 12:00 PM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Agree		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/17/2015 11:00 AM	Total Time Spent At Landing by paid inspectors		4			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/17/2015 11:00 AM	Number of People Contacted		7			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/17/2015 11:00 AM	Was boat used during past 5 days on diff wbody? - No		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/17/2015 11:00 AM	Boat was entering landing		3			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/17/2015 11:00 AM	Have you been contacted by a watercraft inspector this season? - Yes		3			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/17/2015 11:00 AM	Are you willing to answer a few questions? - Yes		3			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/17/2015 11:00 AM	Was boat used during past 5 days on diff wbody? - Don't Know		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/17/2015 11:00 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree		5			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/17/2015 11:00 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Agree		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/15/2015 07:30 AM	Total Time Spent At Landing by paid inspectors		2.5			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/15/2015 07:30 AM	Number of People Contacted		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/15/2015 07:30 AM	Was boat used during past 5 days on diff wbody? - No		1			

LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/15/2015 07:30 AM	Boat was entering landing	1	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/15/2015 07:30 AM	Have you been contacted by a watercraft inspector this season? - Yes	1	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/15/2015 07:30 AM	Are you willing to answer a few questions? - Yes	1	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/15/2015 07:30 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree	2	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/14/2015 04:00 PM	SECCHI DEPTH - FEET	9	FEET
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/14/2015 04:00 PM	WATER COLUMN APPEARANCE	MURKY	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/14/2015 04:00 PM	WATER COLOR (VISUAL)	BROWN	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/14/2015 04:00 PM	USER PERCEPTION OF WATER QUALITY	2-Very minor aesthetic problems	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/14/2015 04:00 PM	WATER LEVEL (VISUAL)	NORMAL	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/14/2015 04:00 PM	SECCHI DEPTH HIT BOTTOM	YES	

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/14/2015 10:00 AM	Total Time Spent At Landing by paid inspectors		4			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/14/2015 10:00 AM	Number of People Contacted		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/14/2015 10:00 AM	Was boat used during past 5 days on diff wbody? - No		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/14/2015 10:00 AM	Boat was entering landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/14/2015 10:00 AM	Have you been contacted by a watercraft inspector this season? - Yes		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/14/2015 10:00 AM	Are you willing to answer a few questions? - Yes		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/14/2015 10:00 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Agree		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/13/2015 11:00 AM	Total Time Spent At Landing by paid inspectors		4			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/13/2015 11:00 AM	Number of People Contacted		3			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/13/2015 11:00 AM	Boat was entering landing		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/13/2015 11:00 AM	Have you been contacted by a watercraft inspector this season? - Yes		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/13/2015 11:00 AM	Have you been contacted by a watercraft inspector this season? - No		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/13/2015 11:00 AM	Are you willing to answer a few questions? - No		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/13/2015 11:00 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/13/2015 11:00 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Agree		1			

LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/12/2015 10:30 AM	Total Time Spent At Landing by paid inspectors	4
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/12/2015 10:30 AM	Number of People Contacted	5
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/12/2015 10:30 AM	Was boat used during past 5 days on diff wbody? - Yes	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/12/2015 10:30 AM	Was boat used during past 5 days on diff wbody? - No	3
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/12/2015 10:30 AM	Boat was entering landing	4
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/12/2015 10:30 AM	Waterbody Name Boat Last Visited (1)	rental return
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/12/2015 10:30 AM	County Boat Last Visited (1)	Sawyer County
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/12/2015 10:30 AM	WBIC Boat Last Visited (1)	0
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/12/2015 10:30 AM	Have you been contacted by a watercraft inspector this season? - Yes	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/12/2015 10:30 AM	Have you been contacted by a watercraft inspector this season? - No	3

Monitoring Station

Station ID 10019085
Station Name Hayward Lake -- Access Off 2nd St.

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/12/2015 10:30 AM	Are you willing to answer a few questions? - Yes		4			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/12/2015 10:30 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree		5			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/11/2015 12:00 PM	Total Time Spent At Landing by paid inspectors		3			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/11/2015 12:00 PM	Number of People Contacted		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/11/2015 12:00 PM	Boat was entering landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/11/2015 12:00 PM	Have you been contacted by a watercraft inspector this season? - Yes		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/11/2015 12:00 PM	Are you willing to answer a few questions? - Yes		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/11/2015 12:00 PM	Was boat used during past 5 days on diff wbody? - Don't Know		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/11/2015 12:00 PM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/10/2015 01:00 PM	Total Time Spent At Landing by paid inspectors		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/10/2015 01:00 PM	Number of People Contacted		4			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/10/2015 01:00 PM	Was boat used during past 5 days on diff wbody? - No		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/10/2015 01:00 PM	Boat was entering landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/10/2015 01:00 PM	Boat was leaving landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/10/2015 01:00 PM	Have you been contacted by a watercraft inspector this season? - Yes		2			

LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/10/2015 01:00 PM	Are you willing to answer a few questions? - Yes	2	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/10/2015 01:00 PM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree	4	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/07/2015 08:00 AM	Total Time Spent At Landing by paid inspectors	2	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/07/2015 08:00 AM	Boat was entering landing	0	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/07/2015 08:00 AM	Boat was leaving landing	0	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/06/2015 10:00 AM	SECCHI DEPTH - FEET	10.25	FEET
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/06/2015 10:00 AM	WATER COLUMN APPEARANCE	MURKY	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/06/2015 10:00 AM	WATER COLOR (VISUAL)	BROWN	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/06/2015 10:00 AM	USER PERCEPTION OF WATER QUALITY	2-Very minor aesthetic problems	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/06/2015 10:00 AM	WATER LEVEL (VISUAL)	HIGH	

Monitoring Station

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/06/2015 10:00 AM	SECCHI DEPTH HIT BOTTOM		YES			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/06/2015 08:00 AM	Total Time Spent At Landing by paid inspectors		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/06/2015 08:00 AM	Boat was entering landing		0			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/06/2015 08:00 AM	Boat was leaving landing		0			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/04/2015 11:45 AM	Total Time Spent At Landing by paid inspectors		3.25			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/04/2015 11:45 AM	Boat was entering landing		0			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/04/2015 11:45 AM	Boat was leaving landing		0			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	08/04/2015 09:00 AM	Total Time Spent At Landing by unpaid (volunteer) inspectors		1.5			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/30/2015 04:30 PM	Total Time Spent At Landing by paid inspectors		2.5			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/30/2015 04:30 PM	Number of People Contacted		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/30/2015 04:30 PM	Boat was leaving landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/30/2015 04:30 PM	Have you been contacted by a watercraft inspector this season? - Yes		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/30/2015 04:30 PM	Are you willing to answer a few questions? - No		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/30/2015 04:30 PM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Agree		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/29/2015 01:00 PM	SECCHI DEPTH - FEET		7.5	FEET		

LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/29/2015 01:00 PM	WATER COLUMN APPEARANCE	MURKY
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/29/2015 01:00 PM	WATER COLOR (VISUAL)	BROWN
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/29/2015 01:00 PM	USER PERCEPTION OF WATER QUALITY	3-Enjoyment somewhat impaired (algae)
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/29/2015 01:00 PM	WATER LEVEL (VISUAL)	NORMAL
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/29/2015 01:00 PM	SECCHI DEPTH HIT BOTTOM	YES
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/29/2015 09:30 AM	Total Time Spent At Landing by paid inspectors	4
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/29/2015 09:30 AM	Number of People Contacted	2
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/29/2015 09:30 AM	Boat was entering landing	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/29/2015 09:30 AM	Have you been contacted by a watercraft inspector this season? - No	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/29/2015 09:30 AM	Are you willing to answer a few questions? - Yes	1

Monitoring Station

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Sample Results

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/29/2015 09:30 AM	Was boat used during past 5 days on diff wbody? - Don't Know		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/29/2015 09:30 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Agree		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/27/2015 12:30 PM	Total Time Spent At Landing by paid inspectors		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/27/2015 12:30 PM	Number of People Contacted		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/27/2015 12:30 PM	Was boat used during past 5 days on diff wbody? - No		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/27/2015 12:30 PM	Boat was entering landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/27/2015 12:30 PM	Have you been contacted by a watercraft inspector this season? - No		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/27/2015 12:30 PM	Are you willing to answer a few questions? - Yes		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/27/2015 12:30 PM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/25/2015 10:30 AM	Total Time Spent At Landing by paid inspectors		3.5			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/25/2015 10:30 AM	Number of People Contacted		8			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/25/2015 10:30 AM	Boat was entering landing		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/25/2015 10:30 AM	Boat was leaving landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/25/2015 10:30 AM	Have you been contacted by a watercraft inspector this season? - Yes		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/25/2015 10:30 AM	Have you been contacted by a watercraft inspector this season? - No		2			

LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/25/2015 10:30 AM	Are you willing to answer a few questions? - Yes	3
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/25/2015 10:30 AM	Are you willing to answer a few questions? - No	3
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/25/2015 10:30 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/25/2015 10:30 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Agree	7
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/24/2015 03:00 PM	Total Time Spent At Landing by paid inspectors	2
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/24/2015 03:00 PM	Number of People Contacted	5
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/24/2015 03:00 PM	Was boat used during past 5 days on diff wbody? - No	2
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/24/2015 03:00 PM	Boat was entering landing	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/24/2015 03:00 PM	Boat was leaving landing	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/24/2015 03:00 PM	Have you been contacted by a watercraft inspector this season? - Yes	1

Monitoring Station

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/24/2015 03:00 PM	Have you been contacted by a watercraft inspector this season? - No		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/24/2015 03:00 PM	Are you willing to answer a few questions? - Yes		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/24/2015 03:00 PM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/24/2015 03:00 PM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Agree		3			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/23/2015 02:00 PM	Total Time Spent At Landing by paid inspectors		4			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/23/2015 02:00 PM	Number of People Contacted		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/23/2015 02:00 PM	Boat was entering landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/23/2015 02:00 PM	Boat was leaving landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/23/2015 02:00 PM	Have you been contacted by a watercraft inspector this season? - Yes		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/23/2015 02:00 PM	Are you willing to answer a few questions? - No		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/23/2015 02:00 PM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/21/2015 02:30 PM	Total Time Spent At Landing by paid inspectors		3			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/21/2015 02:30 PM	Number of People Contacted		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/21/2015 02:30 PM	Boat was entering landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/21/2015 02:30 PM	Have you been contacted by a watercraft inspector this season? - Yes		1			

LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/21/2015 02:30 PM	Are you willing to answer a few questions? - Yes	1	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/21/2015 02:30 PM	Was boat used during past 5 days on diff wbody? - Don't Know	1	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/21/2015 02:30 PM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree	2	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/21/2015 02:00 AM	SECCHI DEPTH - FEET	7.5	FEET
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/21/2015 02:00 AM	WATER COLUMN APPEARANCE	CLEAR	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/21/2015 02:00 AM	WATER COLOR (VISUAL)	BROWN	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/21/2015 02:00 AM	USER PERCEPTION OF WATER QUALITY	3-Enjoyment somewhat impaired (algae)	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/21/2015 02:00 AM	WATER LEVEL (VISUAL)	NORMAL	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/21/2015 02:00 AM	SECCHI DEPTH HIT BOTTOM	YES	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/20/2015 03:00 PM	Total Time Spent At Landing by paid inspectors	2	

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/20/2015 03:00 PM	Number of People Contacted		8			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/20/2015 03:00 PM	Was boat used during past 5 days on diff wbody? - Yes		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/20/2015 03:00 PM	Was boat used during past 5 days on diff wbody? - No		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/20/2015 03:00 PM	Boat was entering landing		3			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/20/2015 03:00 PM	Boat was leaving landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/20/2015 03:00 PM	Waterbody Name Boat Last Visited (1)		maintenance			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/20/2015 03:00 PM	County Boat Last Visited (1)		Sawyer County			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/20/2015 03:00 PM	WBIC Boat Last Visited (1)		0			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/20/2015 03:00 PM	Have you been contacted by a watercraft inspector this season? - Yes		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/20/2015 03:00 PM	Have you been contacted by a watercraft inspector this season? - No		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/20/2015 03:00 PM	Are you willing to answer a few questions? - Yes		4			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/20/2015 03:00 PM	Was boat used during past 5 days on diff wbody? - Don't Know		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/20/2015 03:00 PM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree		6			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/20/2015 03:00 PM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Agree		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/19/2015 06:30 PM	Total Time Spent At Landing by paid inspectors		1.5			

LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/19/2015 06:30 PM	Number of People Contacted	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/19/2015 06:30 PM	Was boat used during past 5 days on diff wbody? - No	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/19/2015 06:30 PM	Boat was leaving landing	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/19/2015 06:30 PM	Have you been contacted by a watercraft inspector this season? - No	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/19/2015 06:30 PM	Are you willing to answer a few questions? - Yes	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/19/2015 06:30 PM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/18/2015 10:00 AM	Total Time Spent At Landing by paid inspectors	4
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/18/2015 10:00 AM	Number of People Contacted	10
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/18/2015 10:00 AM	Was boat used during past 5 days on diff wbody? - No	3
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/18/2015 10:00 AM	Boat was entering landing	2

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/18/2015 10:00 AM	Boat was leaving landing		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/18/2015 10:00 AM	Have you been contacted by a watercraft inspector this season? - Yes		3			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/18/2015 10:00 AM	Have you been contacted by a watercraft inspector this season? - No		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/18/2015 10:00 AM	Are you willing to answer a few questions? - Yes		3			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/18/2015 10:00 AM	Are you willing to answer a few questions? - No		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/18/2015 10:00 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/18/2015 10:00 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Agree		9			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/17/2015 09:00 AM	Total Time Spent At Landing by paid inspectors		3			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/17/2015 09:00 AM	Number of People Contacted		5			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/17/2015 09:00 AM	Was boat used during past 5 days on diff wbody? - Yes		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/17/2015 09:00 AM	Boat was entering landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/17/2015 09:00 AM	Boat was leaving landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/17/2015 09:00 AM	Waterbody Name Boat Last Visited (2)		Round Lake			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/17/2015 09:00 AM	Waterbody Name Boat Last Visited (1)		CHIPAWA FLOWAGE			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/17/2015 09:00 AM	County Boat Last Visited (1)		Sawyer County			

LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/17/2015 09:00 AM	County Boat Last Visited (2)	Sawyer County
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/17/2015 09:00 AM	WBIC Boat Last Visited (1)	2152600
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/17/2015 09:00 AM	WBIC Boat Last Visited (2)	2395600
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/17/2015 09:00 AM	Have you been contacted by a watercraft inspector this season? - Yes	2
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/17/2015 09:00 AM	Are you willing to answer a few questions? - Yes	2
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/17/2015 09:00 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree	5
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/15/2015 04:00 PM	Total Time Spent At Landing by paid inspectors	1.5
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/14/2015 03:00 PM	Total Time Spent At Landing by paid inspectors	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/14/2015 03:00 PM	Number of People Contacted	4
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/14/2015 03:00 PM	Was boat used during past 5 days on diff wbody? - No	1

Monitoring Station

Station ID 10019085
Station Name Hayward Lake -- Access Off 2nd St.

Show specific parameter: <Show All>

Sample Results

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/14/2015 03:00 PM	Boat was entering landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/14/2015 03:00 PM	Boat was leaving landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/14/2015 03:00 PM	Have you been contacted by a watercraft inspector this season? - Yes		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/14/2015 03:00 PM	Have you been contacted by a watercraft inspector this season? - No		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/14/2015 03:00 PM	Are you willing to answer a few questions? - Yes		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/14/2015 03:00 PM	Was boat used during past 5 days on diff wbody? - Don't Know		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/14/2015 03:00 PM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/14/2015 03:00 PM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Agree		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/14/2015 10:00 AM	Total Time Spent At Landing by paid inspectors		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/14/2015 10:00 AM	Number of People Contacted		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/14/2015 10:00 AM	Boat was entering landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/14/2015 10:00 AM	Have you been contacted by a watercraft inspector this season? - Yes		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/14/2015 10:00 AM	Are you willing to answer a few questions? - Yes		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/14/2015 10:00 AM	Was boat used during past 5 days on diff wbody? - Don't Know		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/14/2015 10:00 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree		2			

LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/13/2015 04:00 PM	SECCHI DEPTH - FEET	6.75	FEET
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/13/2015 04:00 PM	WATER COLUMN APPEARANCE	CLEAR	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/13/2015 04:00 PM	WATER COLOR (VISUAL)	BROWN	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/13/2015 04:00 PM	USER PERCEPTION OF WATER QUALITY	3-Enjoyment somewhat impaired (algae)	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/13/2015 04:00 PM	WATER LEVEL (VISUAL)	NORMAL	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/13/2015 04:00 PM	SECCHI DEPTH HIT BOTTOM	YES	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/13/2015 10:30 AM	Total Time Spent At Landing by paid inspectors	2	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/13/2015 10:30 AM	Boat was entering landing	1	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/13/2015 10:30 AM	Have you been contacted by a watercraft inspector this season? - No	1	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/13/2015 10:30 AM	Are you willing to answer a few questions? - Yes	1	

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/13/2015 10:30 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Agree		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/12/2015 11:00 AM	Total Time Spent At Landing by paid inspectors		3			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/12/2015 11:00 AM	Was boat used during past 5 days on diff wbody? - Yes		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/12/2015 11:00 AM	Boat was entering landing		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/12/2015 11:00 AM	Have you been contacted by a watercraft inspector this season? - Yes		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/12/2015 11:00 AM	Have you been contacted by a watercraft inspector this season? - No		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/12/2015 11:00 AM	Are you willing to answer a few questions? - Yes		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/12/2015 11:00 AM	Are you willing to answer a few questions? - No		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/12/2015 11:00 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Agree		6			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/11/2015 06:00 PM	Total Time Spent At Landing by paid inspectors		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/11/2015 06:00 PM	Was boat used during past 5 days on diff wbody? - No		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/11/2015 06:00 PM	Boat was leaving landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/11/2015 06:00 PM	Have you been contacted by a watercraft inspector this season? - No		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/11/2015 06:00 PM	Are you willing to answer a few questions? - Yes		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/11/2015 06:00 PM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Agree		4			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/11/2015 07:00 AM	Total Time Spent At Landing by paid inspectors		3			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/11/2015 07:00 AM	Was boat used during past 5 days on diff wbody? - No		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/11/2015 07:00 AM	Boat was entering landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/11/2015 07:00 AM	Boat was leaving landing		1			

LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/11/2015 07:00 AM	Have you been contacted by a watercraft inspector this season? - Yes	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/11/2015 07:00 AM	Have you been contacted by a watercraft inspector this season? - No	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/11/2015 07:00 AM	Are you willing to answer a few questions? - Yes	2
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/11/2015 07:00 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Agree	5
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/09/2015 06:00 PM	Total Time Spent At Landing by paid inspectors	2
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/09/2015 06:00 PM	Was boat used during past 5 days on diff wbody? - Yes	1

Monitoring Station

Station ID 10019085
Station Name Hayward Lake -- Access Off 2nd St.

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/09/2015 06:00 PM	Was boat used during past 5 days on diff wbody? - No		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/09/2015 06:00 PM	Boat was entering landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/09/2015 06:00 PM	Boat was leaving landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/09/2015 06:00 PM	Waterbody Name Boat Last Visited (1)		DAY LAKE			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/09/2015 06:00 PM	County Boat Last Visited (1)		Sawyer County			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/09/2015 06:00 PM	WBIC Boat Last Visited (1)		2430300			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/09/2015 06:00 PM	Have you been contacted by a watercraft inspector this season? - Yes		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/09/2015 06:00 PM	Have you been contacted by a watercraft inspector this season? - No		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/09/2015 06:00 PM	Are you willing to answer a few questions? - Yes		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/09/2015 06:00 PM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Agree		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/09/2015 02:00 PM	Total Time Spent At Landing by paid inspectors		3			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/09/2015 02:00 PM	Was boat used during past 5 days on diff wbody? - Yes		3			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/09/2015 02:00 PM	Boat was entering landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/09/2015 02:00 PM	Boat was leaving landing		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/09/2015 02:00 PM	Have you been contacted by a watercraft inspector this season? - No		3			

LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/09/2015 02:00 PM	Are you willing to answer a few questions? - Yes	3
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/09/2015 02:00 PM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree	3
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/09/2015 02:00 PM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Agree	3
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/06/2015 06:00 PM	Total Time Spent At Landing by paid inspectors	2
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/06/2015 06:00 PM	Boat was entering landing	0
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/06/2015 06:00 PM	Boat was leaving landing	0
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/06/2015 10:15 AM	Total Time Spent At Landing by paid inspectors	2
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/06/2015 10:15 AM	Boat was entering landing	0
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/06/2015 10:15 AM	Boat was leaving landing	0
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/05/2015 12:15 PM	Total Time Spent At Landing by paid inspectors	2

Monitoring Station

Station ID 10019085
Station Name Hayward Lake -- Access Off 2nd St.

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/05/2015 12:15 PM	Number of People Contacted		6			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/05/2015 12:15 PM	Was boat used during past 5 days on diff wbody? - Yes		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/05/2015 12:15 PM	Boat was entering landing		4			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/05/2015 12:15 PM	Waterbody Name Boat Last Visited (2)		Round Lake			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/05/2015 12:15 PM	Waterbody Name Boat Last Visited (1)		CHIPAWA FLOWAGE			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/05/2015 12:15 PM	County Boat Last Visited (1)		Sawyer County			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/05/2015 12:15 PM	County Boat Last Visited (2)		Sawyer County			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/05/2015 12:15 PM	WBIC Boat Last Visited (1)		2152600			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/05/2015 12:15 PM	WBIC Boat Last Visited (2)		2395600			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/05/2015 12:15 PM	Have you been contacted by a watercraft inspector this season? - Yes		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/05/2015 12:15 PM	Have you been contacted by a watercraft inspector this season? - No		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/05/2015 12:15 PM	Are you willing to answer a few questions? - Yes		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/05/2015 12:15 PM	Are you willing to answer a few questions? - No		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/05/2015 12:15 PM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/05/2015 12:15 PM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Agree		4			

LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/05/2015 11:00 AM	SECCHI DEPTH - FEET	6.75	FEET
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/05/2015 11:00 AM	WATER COLUMN APPEARANCE	CLEAR	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/05/2015 11:00 AM	WATER COLOR (VISUAL)	BROWN	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/05/2015 11:00 AM	USER PERCEPTION OF WATER QUALITY	3-Enjoyment somewhat impaired (algae)	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/05/2015 11:00 AM	WATER LEVEL (VISUAL)	NORMAL	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/05/2015 11:00 AM	SECCHI DEPTH HIT BOTTOM	YES	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/04/2015 11:00 AM	Total Time Spent At Landing by paid inspectors	2.5	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/04/2015 11:00 AM	Number of People Contacted	5	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/04/2015 11:00 AM	Was boat used during past 5 days on diff wbody? - No	3	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/04/2015 11:00 AM	Boat was entering landing	2	

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Station Name Hayward Lake -- Access Off 2nd St.

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Sample Results

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/04/2015 11:00 AM	Boat was leaving landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/04/2015 11:00 AM	Have you been contacted by a watercraft inspector this season? - Yes		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/04/2015 11:00 AM	Have you been contacted by a watercraft inspector this season? - No		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/04/2015 11:00 AM	Are you willing to answer a few questions? - Yes		3			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/04/2015 11:00 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/04/2015 11:00 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Agree		3			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/03/2015 11:00 AM	Total Time Spent At Landing by paid inspectors		3			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/03/2015 11:00 AM	Number of People Contacted		7			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/03/2015 11:00 AM	Was boat used during past 5 days on diff wbody? - Yes		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/03/2015 11:00 AM	Boat was entering landing		4			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/03/2015 11:00 AM	Boat was leaving landing		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/03/2015 11:00 AM	Have you been contacted by a watercraft inspector this season? - Yes		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/03/2015 11:00 AM	Have you been contacted by a watercraft inspector this season? - No		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/03/2015 11:00 AM	Are you willing to answer a few questions? - Yes		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/03/2015 11:00 AM	Are you willing to answer a few questions? - No		2			

LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/03/2015 11:00 AM	Was boat used during past 5 days on diff wbody? - Don't Know	2
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/03/2015 11:00 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree	2
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/03/2015 11:00 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Agree	5
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/01/2015 01:00 PM	Total Time Spent At Landing by paid inspectors	4
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/01/2015 01:00 PM	Number of People Contacted	10
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/01/2015 01:00 PM	Was boat used during past 5 days on diff wbody? - Yes	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/01/2015 01:00 PM	Was boat used during past 5 days on diff wbody? - No	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/01/2015 01:00 PM	Boat was entering landing	4
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/01/2015 01:00 PM	Boat was leaving landing	3
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/01/2015 01:00 PM	Waterbody Name Boat Last Visited (1)	Round Lake

Monitoring Station

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Station Name Hayward Lake -- Access Off 2nd St.

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/01/2015 01:00 PM	County Boat Last Visited (1)		Sawyer County			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/01/2015 01:00 PM	WBIC Boat Last Visited (1)		2395600			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/01/2015 01:00 PM	Have you been contacted by a watercraft inspector this season? - Yes		3			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/01/2015 01:00 PM	Have you been contacted by a watercraft inspector this season? - No		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/01/2015 01:00 PM	Are you willing to answer a few questions? - Yes		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/01/2015 01:00 PM	Are you willing to answer a few questions? - No		3			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/01/2015 01:00 PM	Was boat used during past 5 days on diff wbody? - Don't Know		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/01/2015 01:00 PM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree		6			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	07/01/2015 01:00 PM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Agree		4			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/29/2015 11:30 AM	Total Time Spent At Landing by paid inspectors		3.5			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/29/2015 11:30 AM	Number of People Contacted		4			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/29/2015 11:30 AM	Was boat used during past 5 days on diff wbody? - No		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/29/2015 11:30 AM	Boat was entering landing		3			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/29/2015 11:30 AM	Boat was leaving landing		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/29/2015 11:30 AM	Have you been contacted by a watercraft inspector this season? - Yes		2			

LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/29/2015 11:30 AM	Have you been contacted by a watercraft inspector this season? - No	1	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/29/2015 11:30 AM	Are you willing to answer a few questions? - Yes	1	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/29/2015 11:30 AM	Are you willing to answer a few questions? - No	2	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/29/2015 11:30 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree	2	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/29/2015 11:30 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Agree	2	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/27/2015 06:30 PM	Total Time Spent At Landing by paid inspectors	1	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/27/2015 06:30 PM	Boat was entering landing	0	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/27/2015 06:30 PM	Boat was leaving landing	0	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/27/2015 12:00 AM	SECCHI DEPTH - FEET	7.5	FEET
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/27/2015 12:00 AM	WATER COLUMN APPEARANCE	MURKY	

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Station Name Hayward Lake -- Access Off 2nd St.

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/27/2015 12:00 AM	WATER COLOR (VISUAL)		BROWN			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/27/2015 12:00 AM	USER PERCEPTION OF WATER QUALITY		4-Would not swim but boating OK (algae)			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/27/2015 12:00 AM	WATER LEVEL (VISUAL)		NORMAL			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/27/2015 12:00 AM	SECCHI DEPTH HIT BOTTOM		YES			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/23/2015 12:00 PM	Total Time Spent At Landing by paid inspectors		3			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/23/2015 12:00 PM	Number of People Contacted		4			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/23/2015 12:00 PM	Was boat used during past 5 days on diff wbody? - Yes		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/23/2015 12:00 PM	Was boat used during past 5 days on diff wbody? - No		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/23/2015 12:00 PM	Boat was entering landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/23/2015 12:00 PM	Boat was leaving landing		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/23/2015 12:00 PM	Waterbody Name Boat Last Visited (1)		Round Lake			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/23/2015 12:00 PM	County Boat Last Visited (1)		Sawyer County			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/23/2015 12:00 PM	WBIC Boat Last Visited (1)		2395600			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/23/2015 12:00 PM	Have you been contacted by a watercraft inspector this season? - Yes		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/23/2015 12:00 PM	Have you been contacted by a watercraft inspector this season? - No		2			

LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/23/2015 12:00 PM	Are you willing to answer a few questions? - Yes	3
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/23/2015 12:00 PM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree	2
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/23/2015 12:00 PM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Agree	2
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/23/2015 10:00 AM	Total Time Spent At Landing by paid inspectors	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/23/2015 10:00 AM	Boat was entering landing	0
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/23/2015 10:00 AM	Boat was leaving landing	0
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/22/2015 12:30 PM	Total Time Spent At Landing by paid inspectors	2
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/22/2015 12:30 PM	Number of People Contacted	2
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/22/2015 12:30 PM	Was boat used during past 5 days on diff wbody? - No	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/22/2015 12:30 PM	Boat was entering landing	1

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/22/2015 12:30 PM	Have you been contacted by a watercraft inspector this season? - No		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/22/2015 12:30 PM	Are you willing to answer a few questions? - Yes		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/22/2015 12:30 PM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/20/2015 06:00 AM	Total Time Spent At Landing by paid inspectors		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/20/2015 06:00 AM	Boat was entering landing		0			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/20/2015 06:00 AM	Boat was leaving landing		0			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/19/2015 09:00 AM	Total Time Spent At Landing by paid inspectors		3			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/19/2015 09:00 AM	Number of People Contacted		4			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/19/2015 09:00 AM	Was boat used during past 5 days on diff wbody? - Yes		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/19/2015 09:00 AM	Was boat used during past 5 days on diff wbody? - No		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/19/2015 09:00 AM	Boat was entering landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/19/2015 09:00 AM	Boat was leaving landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/19/2015 09:00 AM	Waterbody Name Boat Last Visited (1)		Spider Lake			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/19/2015 09:00 AM	County Boat Last Visited (1)		Sawyer County			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/19/2015 09:00 AM	WBIC Boat Last Visited (1)		2435700			

LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/19/2015 09:00 AM	Have you been contacted by a watercraft inspector this season? - Yes	1	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/19/2015 09:00 AM	Have you been contacted by a watercraft inspector this season? - No	1	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/19/2015 09:00 AM	Are you willing to answer a few questions? - Yes	2	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/19/2015 09:00 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree	4	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/19/2015 08:00 AM	SECCHI DEPTH - FEET	6.5	FEET
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/19/2015 08:00 AM	WATER COLUMN APPEARANCE	MURKY	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/19/2015 08:00 AM	WATER COLOR (VISUAL)	BROWN	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/19/2015 08:00 AM	USER PERCEPTION OF WATER QUALITY	4-Would not swim but boating OK (algae)	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/19/2015 08:00 AM	WATER LEVEL (VISUAL)	NORMAL	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/19/2015 08:00 AM	SECCHI DEPTH HIT BOTTOM	YES	

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/17/2015 01:30 PM	Total Time Spent At Landing by paid inspectors		4			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/17/2015 01:30 PM	Was boat used during past 5 days on diff wbody? - No		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/17/2015 01:30 PM	Boat was entering landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/17/2015 01:30 PM	Have you been contacted by a watercraft inspector this season? - No		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/17/2015 01:30 PM	Are you willing to answer a few questions? - Yes		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/17/2015 01:30 PM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/16/2015 10:00 AM	Total Time Spent At Landing by paid inspectors		4			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/16/2015 10:00 AM	Number of People Contacted		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/16/2015 10:00 AM	Was boat used during past 5 days on diff wbody? - No		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/16/2015 10:00 AM	Boat was entering landing		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/16/2015 10:00 AM	Boat was leaving landing		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/16/2015 10:00 AM	Have you been contacted by a watercraft inspector this season? - Yes		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/16/2015 10:00 AM	Are you willing to answer a few questions? - No		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/16/2015 10:00 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/14/2015 05:30 PM	Total Time Spent At Landing by paid inspectors		2.5			

LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/14/2015 05:30 PM	Boat was entering landing	0	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/14/2015 05:30 PM	Boat was leaving landing	0	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/11/2015 09:00 AM	SECCHI DEPTH - FEET	5.5	FEET
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/11/2015 09:00 AM	WATER COLUMN APPEARANCE	MURKY	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/11/2015 09:00 AM	WATER COLOR (VISUAL)	BROWN	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/11/2015 09:00 AM	USER PERCEPTION OF WATER QUALITY	3-Enjoyment somewhat impaired (algae)	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/11/2015 09:00 AM	WATER LEVEL (VISUAL)	LOW	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/11/2015 09:00 AM	SECCHI DEPTH HIT BOTTOM	YES	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/11/2015 08:00 AM	Total Time Spent At Landing by paid inspectors	3.5	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/11/2015 08:00 AM	Number of People Contacted	4	

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/11/2015 08:00 AM	Was boat used during past 5 days on diff wbody? - Yes		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/11/2015 08:00 AM	Boat was entering landing		3			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/11/2015 08:00 AM	Boat was leaving landing		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/11/2015 08:00 AM	Waterbody Name Boat Last Visited (1)		Lac Courte Oreilles			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/11/2015 08:00 AM	County Boat Last Visited (1)		Sawyer County			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/11/2015 08:00 AM	WBIC Boat Last Visited (1)		2390800			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/11/2015 08:00 AM	Have you been contacted by a watercraft inspector this season? - Yes		3			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/11/2015 08:00 AM	Are you willing to answer a few questions? - Yes		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/11/2015 08:00 AM	Are you willing to answer a few questions? - No		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/11/2015 08:00 AM	Was boat used during past 5 days on diff wbody? - Don't Know		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/11/2015 08:00 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/11/2015 08:00 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Agree		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/10/2015 07:00 AM	Total Time Spent At Landing by paid inspectors		4			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/10/2015 07:00 AM	Number of People Contacted		4			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/10/2015 07:00 AM	Was boat used during past 5 days on diff wbody? - No		1			

LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/10/2015 07:00 AM	Boat was entering landing	2
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/10/2015 07:00 AM	Boat was leaving landing	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/10/2015 07:00 AM	Have you been contacted by a watercraft inspector this season? - Yes	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/10/2015 07:00 AM	Have you been contacted by a watercraft inspector this season? - No	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/10/2015 07:00 AM	Are you willing to answer a few questions? - Yes	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/10/2015 07:00 AM	Are you willing to answer a few questions? - No	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/10/2015 07:00 AM	Was boat used during past 5 days on diff wbody? - Don't Know	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/10/2015 07:00 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/10/2015 07:00 AM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Agree	3
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/09/2015 05:35 PM	Total Time Spent At Landing by paid inspectors	2

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/09/2015 05:35 PM	Was boat used during past 5 days on diff wbody? - No		4			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/09/2015 05:35 PM	Boat was entering landing		3			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/09/2015 05:35 PM	Boat was leaving landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/09/2015 05:35 PM	Have you been contacted by a watercraft inspector this season? - No		4			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/09/2015 05:35 PM	Are you willing to answer a few questions? - Yes		4			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/09/2015 05:35 PM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Agree		8			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/04/2015 04:30 PM	Total Time Spent At Landing by paid inspectors		2.5			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/04/2015 04:30 PM	Number of People Contacted		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/04/2015 04:30 PM	Was boat used during past 5 days on diff wbody? - Yes		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/04/2015 04:30 PM	Boat was leaving landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/04/2015 04:30 PM	Waterbody Name Boat Last Visited (1)		CHIPAWA FLOWAGE			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/04/2015 04:30 PM	County Boat Last Visited (1)		Sawyer County			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/04/2015 04:30 PM	WBIC Boat Last Visited (1)		2152600			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/04/2015 04:30 PM	Have you been contacted by a watercraft inspector this season? - No		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/04/2015 04:30 PM	Are you willing to answer a few questions? - Yes		1			

LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/04/2015 04:30 PM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree	2	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/03/2015 04:00 AM	SECCHI DEPTH - FEET	7	FEET
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/03/2015 04:00 AM	WATER COLUMN APPEARANCE	CLEAR	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/03/2015 04:00 AM	WATER COLOR (VISUAL)	BROWN	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/03/2015 04:00 AM	USER PERCEPTION OF WATER QUALITY	2-Very minor aesthetic problems	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/03/2015 04:00 AM	WATER LEVEL (VISUAL)	NORMAL	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/03/2015 04:00 AM	SECCHI DEPTH HIT BOTTOM	YES	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/02/2015 05:00 PM	Total Time Spent At Landing by paid inspectors	3	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/02/2015 05:00 PM	Number of People Contacted	3	
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/02/2015 05:00 PM	Was boat used during past 5 days on diff wbody? - Yes	2	

Monitoring Station

Station ID 10019085
Station Name Hayward Lake -- Access Off 2nd St.

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/02/2015 05:00 PM	Was boat used during past 5 days on diff wbody? - No		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/02/2015 05:00 PM	Boat was entering landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/02/2015 05:00 PM	Boat was leaving landing		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/02/2015 05:00 PM	Waterbody Name Boat Last Visited (1)		NELSON LAKE			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/02/2015 05:00 PM	County Boat Last Visited (1)		Sawyer County			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/02/2015 05:00 PM	WBIC Boat Last Visited (1)		2704200			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/02/2015 05:00 PM	Have you been contacted by a watercraft inspector this season? - No		3			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/02/2015 05:00 PM	Are you willing to answer a few questions? - Yes		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/02/2015 05:00 PM	Are you willing to answer a few questions? - No		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	06/02/2015 05:00 PM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree		3			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	05/31/2015 05:00 PM	Total Time Spent At Landing by paid inspectors		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	05/31/2015 05:00 PM	Number of People Contacted		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	05/31/2015 05:00 PM	Was boat used during past 5 days on diff wbody? - No		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	05/31/2015 05:00 PM	Boat was entering landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	05/31/2015 05:00 PM	Have you been contacted by a watercraft inspector this season? - No		1			

LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	05/31/2015 05:00 PM	Are you willing to answer a few questions? - Yes	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	05/31/2015 05:00 PM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Agree	2
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	05/30/2015 11:00 AM	Total Time Spent At Landing by paid inspectors	3
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	05/28/2015 05:00 PM	Total Time Spent At Landing by paid inspectors	2
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	05/28/2015 05:00 PM	Number of People Contacted	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	05/28/2015 05:00 PM	Boat was leaving landing	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	05/28/2015 05:00 PM	Have you been contacted by a watercraft inspector this season? - Yes	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	05/28/2015 05:00 PM	Are you willing to answer a few questions? - No	1
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	05/24/2015 02:20 PM	Total Time Spent At Landing by paid inspectors	2
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	05/24/2015 02:20 PM	Number of People Contacted	6

Monitoring Station

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	05/24/2015 02:20 PM	Was boat used during past 5 days on diff wbody? - No		3			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	05/24/2015 02:20 PM	Boat was entering landing		2			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	05/24/2015 02:20 PM	Boat was leaving landing		1			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	05/24/2015 02:20 PM	Have you been contacted by a watercraft inspector this season? - No		3			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	05/24/2015 02:20 PM	Are you willing to answer a few questions? - Yes		3			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	05/24/2015 02:20 PM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Strongly Agree		4			
LAKE HAYWARD PROPERTY OWNERS ASSOCIATION: Lake Hayward 2015 Clean Boats Clean Waters Project	05/24/2015 02:20 PM	I feel confident that the boater understands the steps necessary to prevent the spread of AIS - Agree		2			
Signage Installation - Sawyer County	12/27/2010 12:00 AM	What type of access point was this?		Ramp			
Signage Installation - Sawyer County	12/27/2010 12:00 AM	Before you installed the new AIS sign (Prevent the Spread), were there other AIS signs at the access point? - Yellow "Exotic Species Advisory" sign		YES			
Signage Installation - Sawyer County	12/27/2010 12:00 AM	Before you installed the new AIS sign (Prevent the Spread), were there other AIS signs at the access point? - Green and white "Help Prevent the Spread sign"		NO			
Signage Installation - Sawyer County	12/27/2010 12:00 AM	Before you installed the new AIS sign (Prevent the Spread), were there other AIS signs at the access point? - Green, white and red stop sign "Please Stop and"		YES			
Signage Installation - Sawyer County	12/27/2010 12:00 AM	Before you installed the new AIS sign (Prevent the Spread), were there other AIS signs at the access point? - County ordinance sign		NO			
Signage Installation - Sawyer County	12/27/2010 12:00 AM	Before you installed the new AIS sign (Prevent the Spread), were there other AIS signs at the access point? - Lake Association sign		NO			
Signage Installation - Sawyer County	12/27/2010 12:00 AM	Did you remove any of these signs during your visit, or do you have plans in the near future? - Yellow "Exotic Species Advisory" sign		YES			
Signage Installation - Sawyer County	12/27/2010 12:00 AM	Did you remove any of these signs during your visit, or do you have plans in the near future? - Green and white "Help..Prevent the Spread" sign		NO			

Signage Installation - Sawyer County	12/27/2010 12:00 AM	Did you remove any of these signs during your visit, or do you have plans in the near future? - Green, white and red stop sign "Please Stop and..."	YES
Signage Installation - Sawyer County	12/27/2010 12:00 AM	Did you remove any of these signs during your visit, or do you have plans in the near future? - County ordinance sign	NO
Signage Installation - Sawyer County	12/27/2010 12:00 AM	Did you remove any of these signs during your visit, or do you have plans in the near future? - Lake Association Sign	NO
Signage Installation - Sawyer County	12/27/2010 12:00 AM	When installing the sign, were you able to reuse the post from previous DNR signs?	YES
Signage Installation - Sawyer County	12/27/2010 12:00 AM	Was this waterbody known to contain invasive species?	YES
Signage Installation - Sawyer County	12/27/2010 12:00 AM	If the waterbody was known to contain invasive species, was the red sticker "This Waterbody Is Known to Contain Invasive Species" applied to the bottom of the sign?	YES
Signage Installation - Sawyer County	12/27/2010 12:00 AM	Was the sign installed facing the water so people leaving the water could read it or facing the launching area so people could read it?	Launching
Signage Installation - Sawyer County	12/27/2010 12:00 AM	The location that best represents where the sign is currently located	Next to access point, facing launch area
Signage Installation - Sawyer County	12/27/2010 12:00 AM	Does the access point appear to be in proper working order?	YES
Signage Installation - Sawyer County	12/27/2010 12:00 AM	How many people assisted in the sign installation?	1

Monitoring Station

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Station Name Hayward Lake -- Access Off 2nd St.

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Signage Installation - Sawyer County	12/27/2010 12:00 AM	How would you describe yourself (affiliation)?		County employee			
Signage Installation - Sawyer County	07/30/2010 12:00 AM	What type of access point was this?		Ramp			
Signage Installation - Sawyer County	07/30/2010 12:00 AM	Before you installed the new AIS sign (Prevent the Spread), were there other AIS signs at the access point? - Yellow "Exotic Species Advisory" sign		YES			
Signage Installation - Sawyer County	07/30/2010 12:00 AM	Before you installed the new AIS sign (Prevent the Spread), were there other AIS signs at the access point? - Green and white "Help Prevent the Spread sign"		NO			
Signage Installation - Sawyer County	07/30/2010 12:00 AM	Before you installed the new AIS sign (Prevent the Spread), were there other AIS signs at the access point? - Green, white and red stop sign "Please Stop and"		YES			
Signage Installation - Sawyer County	07/30/2010 12:00 AM	Before you installed the new AIS sign (Prevent the Spread), were there other AIS signs at the access point? - County ordinance sign		NO			
Signage Installation - Sawyer County	07/30/2010 12:00 AM	Before you installed the new AIS sign (Prevent the Spread), were there other AIS signs at the access point? - Lake Association sign		NO			
Signage Installation - Sawyer County	07/30/2010 12:00 AM	Did you remove any of these signs during your visit, or do you have plans in the near future? - Yellow "Exotic Species Advisory" sign		YES			
Signage Installation - Sawyer County	07/30/2010 12:00 AM	Did you remove any of these signs during your visit, or do you have plans in the near future? - Green and white "Help..Prevent the Spread" sign		NO			
Signage Installation - Sawyer County	07/30/2010 12:00 AM	Did you remove any of these signs during your visit, or do you have plans in the near future? - Green, white and red stop sign "Please Stop and..."		YES			
Signage Installation - Sawyer County	07/30/2010 12:00 AM	Did you remove any of these signs during your visit, or do you have plans in the near future? - County ordinance sign		NO			
Signage Installation - Sawyer County	07/30/2010 12:00 AM	Did you remove any of these signs during your visit, or do you have plans in the near future? - Lake Association Sign		NO			
Signage Installation - Sawyer County	07/30/2010 12:00 AM	When installing the sign, were you able to reuse the post from previous DNR signs?		YES			
Signage Installation - Sawyer County	07/30/2010 12:00 AM	Was this waterbody known to contain invasive species?		YES			
Signage Installation - Sawyer County	07/30/2010 12:00 AM	If the waterbody was known to contain invasive species, was the red sticker "This Waterbody Is Known to Contain Invasive Species" applied to the bottom of the sign?		YES			
Signage Installation - Sawyer County	07/30/2010 12:00 AM	Was the sign installed facing the water so people leaving the water could read it or facing the launching area so people could read it?		Launching			
Signage Installation - Sawyer County	07/30/2010 12:00 AM	The location that best represents where the sign is currently located		Next to access point, facing launch area			
Signage Installation - Sawyer County	07/30/2010 12:00 AM	Does the access point appear to be in proper working order?		YES			
Signage	07/30/2010	How many people assisted in the sign installation?		1			

Installation - Sawyer County	12:00 AM			
Signage Installation - Sawyer County	07/30/2010 12:00 AM	How would you describe yourself (affiliation)?	County employee	
Clean Boats, Clean Waters - Hayward Lake	08/27/2006 12:00 AM	Number of People Contacted	0	PEOPLE
Clean Boats, Clean Waters - Hayward Lake	08/27/2006 12:00 AM	Total Time Spent at Landing	0.25	HOURS
Clean Boats, Clean Waters - Hayward Lake	08/20/2006 12:00 AM	Number of People Contacted	0	PEOPLE
Clean Boats, Clean Waters - Hayward Lake	08/20/2006 12:00 AM	Total Time Spent at Landing	0.5	HOURS
Clean Boats, Clean Waters - Hayward Lake	07/30/2006 12:00 AM	Number of People Contacted	0	PEOPLE

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Clean Boats, Clean Waters - Hayward Lake	07/30/2006 12:00 AM	Total Time Spent at Landing		0.5	HOURS		
Clean Boats, Clean Waters - Hayward Lake	07/09/2006 12:00 AM	State of Vehicle - WI		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/09/2006 12:00 AM	State of Vehicle - Other		1	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/09/2006 12:00 AM	Type of Boat - PWC		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/09/2006 12:00 AM	Type of Boat - Pontoon		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/09/2006 12:00 AM	Type of Boat - Fishing		1	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/09/2006 12:00 AM	Type of Boat - Pleasure/Ski		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/09/2006 12:00 AM	Type of Boat - Sailboat		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/09/2006 12:00 AM	Type of Boat - Kayak/Canoe		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/09/2006 12:00 AM	Type of Boat - Other		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/09/2006 12:00 AM	Horsepower - 0-25		1	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/09/2006 12:00 AM	Horsepower - 26-50		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/09/2006 12:00 AM	Horsepower - 51-75		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/09/2006 12:00 AM	Horsepower - 76-100		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/09/2006 12:00 AM	Horsepower - 101-150		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/09/2006 12:00 AM	Horsepower - >150		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/09/2006 12:00 AM	Vegetation on Boat?- Entering - Yes		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/09/2006 12:00 AM	Vegetation on Boat?- Entering - No		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/09/2006 12:00 AM	Vegetation on Boat?- Leaving Water- Yes		1	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/09/2006 12:00 AM	Vegetation on Boat?- Leaving Water - No		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/09/2006 12:00 AM	Last Time/Place Boat Used - Infested? - Yes		1	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/09/2006 12:00 AM	Last Time/Place Boat Used - Infested? - No		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/09/2006 12:00 AM	Boat last used during past 5 days? - Yes		1	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/09/2006 12:00 AM	Boat last used during past 5 days? - No		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/09/2006 12:00 AM	Prevention Steps Taken - Yes		0	WATERCRAFT		

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Clean Boats, Clean Waters - Hayward Lake	07/09/2006 12:00 AM	Prevention Steps Taken - No		1	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/09/2006 12:00 AM	Aware of Law - Yes		1	WATERCRAFT OPERATORS		
Clean Boats, Clean Waters - Hayward Lake	07/09/2006 12:00 AM	Aware of Law - No		0	WATERCRAFT OPERATORS		
Clean Boats, Clean Waters - Hayward Lake	07/09/2006 12:00 AM	Prior Knowledge of AIS - Inspector/Volunteer		0	WATERCRAFT OPERATORS		
Clean Boats, Clean Waters - Hayward Lake	07/09/2006 12:00 AM	Prior Knowledge of AIS - PSA		0	WATERCRAFT OPERATORS		
Clean Boats, Clean Waters - Hayward Lake	07/09/2006 12:00 AM	Prior Knowledge of AIS - Newspaper/Media		1	WATERCRAFT OPERATORS		
Clean Boats, Clean Waters - Hayward Lake	07/09/2006 12:00 AM	Prior Knowledge of AIS - Presentation/Display		0	WATERCRAFT OPERATORS		
Clean Boats, Clean Waters - Hayward Lake	07/09/2006 12:00 AM	Prior Knowledge of AIS - Publication		0	WATERCRAFT OPERATORS		
Clean Boats, Clean Waters - Hayward Lake	07/09/2006 12:00 AM	Prior Knowledge of AIS - Other		0	WATERCRAFT OPERATORS		
Clean Boats, Clean Waters - Hayward Lake	07/09/2006 12:00 AM	Number of People Contacted		2	PEOPLE		
Clean Boats, Clean Waters - Hayward Lake	07/09/2006 12:00 AM	Total Time Spent at Landing		1	HOURS		
Clean Boats, Clean Waters - Hayward Lake	07/02/2006 12:00 AM	State of Vehicle - WI		1	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/02/2006 12:00 AM	State of Vehicle - Other		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/02/2006 12:00 AM	Type of Boat - PWC		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/02/2006 12:00 AM	Type of Boat - Pontoon		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/02/2006 12:00 AM	Type of Boat - Fishing		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/02/2006 12:00 AM	Type of Boat - Pleasure/Ski		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/02/2006 12:00 AM	Type of Boat - Sailboat		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/02/2006 12:00 AM	Type of Boat - Kayak/Canoe		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/02/2006 12:00 AM	Type of Boat - Other		1	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/02/2006 12:00 AM	Vegetation on Boat?- Entering - Yes		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/02/2006 12:00 AM	Vegetation on Boat?- Entering - No		1	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/02/2006 12:00 AM	Vegetation on Boat?- Leaving Water- Yes		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/02/2006 12:00 AM	Vegetation on Boat?- Leaving Water - No		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/02/2006 12:00 AM	Last Time/Place Boat Used - Infested? - Yes		1	WATERCRAFT		

Monitoring Station

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Clean Boats, Clean Waters - Hayward Lake	07/02/2006 12:00 AM	Last Time/Place Boat Used - Infested? - No		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/02/2006 12:00 AM	Boat last used during past 5 days? - Yes		1	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/02/2006 12:00 AM	Boat last used during past 5 days? - No		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/02/2006 12:00 AM	Prevention Steps Taken - Yes		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/02/2006 12:00 AM	Prevention Steps Taken - No		1	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	07/02/2006 12:00 AM	Aware of Law - Yes		0	WATERCRAFT OPERATORS		
Clean Boats, Clean Waters - Hayward Lake	07/02/2006 12:00 AM	Aware of Law - No		1	WATERCRAFT OPERATORS		
Clean Boats, Clean Waters - Hayward Lake	07/02/2006 12:00 AM	Number of People Contacted		8	PEOPLE		
Clean Boats, Clean Waters - Hayward Lake	07/02/2006 12:00 AM	Total Time Spent at Landing		0.75	HOURS		
Clean Boats, Clean Waters - Hayward Lake	06/25/2006 12:00 AM	State of Vehicle - WI		1	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	06/25/2006 12:00 AM	State of Vehicle - Other		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	06/25/2006 12:00 AM	Type of Boat - PWC		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	06/25/2006 12:00 AM	Type of Boat - Pontoon		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	06/25/2006 12:00 AM	Type of Boat - Fishing		1	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	06/25/2006 12:00 AM	Type of Boat - Pleasure/Ski		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	06/25/2006 12:00 AM	Type of Boat - Sailboat		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	06/25/2006 12:00 AM	Type of Boat - Kayak/Canoe		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	06/25/2006 12:00 AM	Type of Boat - Other		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	06/25/2006 12:00 AM	Horsepower - 0-25		1	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	06/25/2006 12:00 AM	Horsepower - 26-50		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	06/25/2006 12:00 AM	Horsepower - 51-75		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	06/25/2006 12:00 AM	Horsepower - 76-100		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	06/25/2006 12:00 AM	Horsepower - 101-150		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	06/25/2006 12:00 AM	Horsepower - >150		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	06/25/2006 12:00 AM	Boat last used during past 5 days? - Yes		1	WATERCRAFT		

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Clean Boats, Clean Waters - Hayward Lake	06/25/2006 12:00 AM	Boat last used during past 5 days? - No		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	06/25/2006 12:00 AM	Prevention Steps Taken - Yes		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	06/25/2006 12:00 AM	Prevention Steps Taken - No		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	06/25/2006 12:00 AM	Aware of Law - Yes		1	WATERCRAFT OPERATORS		
Clean Boats, Clean Waters - Hayward Lake	06/25/2006 12:00 AM	Aware of Law - No		0	WATERCRAFT OPERATORS		
Clean Boats, Clean Waters - Hayward Lake	06/25/2006 12:00 AM	Prior Knowledge of AIS - Inspector/Volunteer		0	WATERCRAFT OPERATORS		
Clean Boats, Clean Waters - Hayward Lake	06/25/2006 12:00 AM	Prior Knowledge of AIS - PSA		0	WATERCRAFT OPERATORS		
Clean Boats, Clean Waters - Hayward Lake	06/25/2006 12:00 AM	Prior Knowledge of AIS - Newspaper/Media		0	WATERCRAFT OPERATORS		
Clean Boats, Clean Waters - Hayward Lake	06/25/2006 12:00 AM	Prior Knowledge of AIS - Presentation/Display		0	WATERCRAFT OPERATORS		
Clean Boats, Clean Waters - Hayward Lake	06/25/2006 12:00 AM	Prior Knowledge of AIS - Publication		1	WATERCRAFT OPERATORS		
Clean Boats, Clean Waters - Hayward Lake	06/25/2006 12:00 AM	Prior Knowledge of AIS - Signs		1	WATERCRAFT OPERATORS		
Clean Boats, Clean Waters - Hayward Lake	06/25/2006 12:00 AM	Prior Knowledge of AIS - Other		1	WATERCRAFT OPERATORS		
Clean Boats, Clean Waters - Hayward Lake	06/25/2006 12:00 AM	Number of People Contacted		5	PEOPLE		
Clean Boats, Clean Waters - Hayward Lake	06/25/2006 12:00 AM	Total Time Spent at Landing		1	HOURS		
Clean Boats, Clean Waters - Hayward Lake	06/18/2006 12:00 AM	Number of People Contacted		0	PEOPLE		
Clean Boats, Clean Waters - Hayward Lake	06/18/2006 12:00 AM	Number of People Contacted		0	PEOPLE		
Clean Boats, Clean Waters - Hayward Lake	06/18/2006 12:00 AM	Total Time Spent at Landing		0.25	HOURS		
Clean Boats, Clean Waters - Hayward Lake	06/18/2006 12:00 AM	Total Time Spent at Landing		0.25	HOURS		
Clean Boats, Clean Waters - Hayward Lake	06/11/2006 12:00 AM	Total Time Spent at Landing		1	HOURS		
Clean Boats, Clean Waters - Hayward Lake	06/11/2006 12:00 AM	Total Time Spent at Landing		1	HOURS		
Clean Boats, Clean Waters - Hayward Lake	06/04/2006 12:00 AM	State of Vehicle - WI		1	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	06/04/2006 12:00 AM	State of Vehicle - Other		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	06/04/2006 12:00 AM	Type of Boat - PWC		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	06/04/2006 12:00 AM	Type of Boat - Pontoon		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	06/04/2006 12:00 AM	Type of Boat - Fishing		0	WATERCRAFT		

Monitoring Station

Station ID 10019085
Station Name Hayward Lake -- Access Off 2nd St.

Show specific parameter: <Show All>

Sample Results

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Clean Boats, Clean Waters - Hayward Lake	06/04/2006 12:00 AM	Type of Boat - Pleasure/Ski		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	06/04/2006 12:00 AM	Type of Boat - Sailboat		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	06/04/2006 12:00 AM	Type of Boat - Kayak/Canoe		1	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	06/04/2006 12:00 AM	Type of Boat - Other		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	06/04/2006 12:00 AM	Vegetation on Boat?- Leaving Landing - Yes		1	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	06/04/2006 12:00 AM	Vegetation on Boat?- Leaving Landing - No		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	06/04/2006 12:00 AM	Boat last used during past 5 days? - Yes		1	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	06/04/2006 12:00 AM	Boat last used during past 5 days? - No		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	06/04/2006 12:00 AM	Prevention Steps Taken - Yes		1	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	06/04/2006 12:00 AM	Prevention Steps Taken - No		0	WATERCRAFT		
Clean Boats, Clean Waters - Hayward Lake	06/04/2006 12:00 AM	Aware of Law - Yes		0	WATERCRAFT OPERATORS		
Clean Boats, Clean Waters - Hayward Lake	06/04/2006 12:00 AM	Aware of Law - No		1	WATERCRAFT OPERATORS		
Clean Boats, Clean Waters - Hayward Lake	06/04/2006 12:00 AM	Number of People Contacted		2	PEOPLE		
Clean Boats, Clean Waters - Hayward Lake	06/04/2006 12:00 AM	Total Time Spent at Landing		0.25	HOURS		

Monitoring Station

Station ID 583131
Station Name Hayward Lake - Deep Hole

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Sample Results

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	10/06/2014 01:10 PM	SECCHI DEPTH - FEET		5	FEET		
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	10/06/2014 01:10 PM	WATER COLUMN APPEARANCE		CLEAR			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	10/06/2014 01:10 PM	WATER COLOR (VISUAL)		BROWN			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	10/06/2014 01:10 PM	USER PERCEPTION OF WATER QUALITY		2-Very minor aesthetic problems			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	10/06/2014 01:10 PM	WATER LEVEL (VISUAL)		LOW			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	10/06/2014 01:10 PM	SECCHI DEPTH HIT BOTTOM		NO			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	09/28/2014 03:30 PM	SECCHI DEPTH - FEET		6.92	FEET		
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	09/28/2014 03:30 PM	WATER COLUMN APPEARANCE		CLEAR			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	09/28/2014 03:30 PM	WATER COLOR (VISUAL)		BROWN			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	09/28/2014 03:30 PM	USER PERCEPTION OF WATER QUALITY		2-Very minor aesthetic problems			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	09/28/2014 03:30 PM	WATER LEVEL (VISUAL)		NORMAL			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	09/28/2014 03:30 PM	SECCHI DEPTH HIT BOTTOM		NO			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	09/20/2014 02:00 PM	SECCHI DEPTH - FEET		7.25	FEET		
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	09/20/2014 02:00 PM	WATER COLUMN APPEARANCE		CLEAR			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	09/20/2014 02:00 PM	WATER COLOR (VISUAL)		BROWN			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	09/20/2014 02:00 PM	USER PERCEPTION OF WATER QUALITY		2-Very minor aesthetic problems			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	09/20/2014 02:00 PM	WATER LEVEL (VISUAL)		NORMAL			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	09/20/2014 02:00 PM	SECCHI DEPTH HIT BOTTOM		NO			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	09/12/2014 02:00 PM	SECCHI DEPTH - FEET		5.5	FEET		
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	09/12/2014 02:00 PM	WATER COLUMN APPEARANCE		CLEAR			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	09/12/2014 02:00 PM	WATER COLOR (VISUAL)		BROWN			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	09/12/2014 02:00 PM	USER PERCEPTION OF WATER QUALITY		2-Very minor aesthetic problems			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	09/12/2014 02:00 PM	WATER LEVEL (VISUAL)		HIGH			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	09/12/2014 02:00 PM	SECCHI DEPTH HIT BOTTOM		NO			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	09/04/2014 02:00 PM	SECCHI DEPTH - FEET		5	FEET		

Monitoring Station

Station ID 583131
Station Name Hayward Lake - Deep Hole

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Sample Results

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	09/04/2014 02:00 PM	WATER COLUMN APPEARANCE		CLEAR			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	09/04/2014 02:00 PM	WATER COLOR (VISUAL)		BROWN			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	09/04/2014 02:00 PM	USER PERCEPTION OF WATER QUALITY		2-Very minor aesthetic problems			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	09/04/2014 02:00 PM	WATER LEVEL (VISUAL)		HIGH			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	09/04/2014 02:00 PM	SECCHI DEPTH HIT BOTTOM		NO			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	08/25/2014 05:30 PM	SECCHI DEPTH - FEET		7	FEET		
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	08/25/2014 05:30 PM	WATER COLUMN APPEARANCE		MURKY			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	08/25/2014 05:30 PM	WATER COLOR (VISUAL)		BROWN			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	08/25/2014 05:30 PM	USER PERCEPTION OF WATER QUALITY		2-Very minor aesthetic problems			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	08/25/2014 05:30 PM	WATER LEVEL (VISUAL)		NORMAL			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	08/25/2014 05:30 PM	SECCHI DEPTH HIT BOTTOM		NO			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	08/19/2014 10:00 AM	SECCHI DEPTH - FEET		8.5	FEET		
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	08/19/2014 10:00 AM	WATER COLUMN APPEARANCE		CLEAR			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	08/19/2014 10:00 AM	WATER COLOR (VISUAL)		BROWN			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	08/19/2014 10:00 AM	USER PERCEPTION OF WATER QUALITY		3-Enjoyment somewhat impaired (algae)			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	08/19/2014 10:00 AM	WATER LEVEL (VISUAL)		NORMAL			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	08/19/2014 10:00 AM	SECCHI DEPTH HIT BOTTOM		NO			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	08/11/2014 06:30 PM	SECCHI DEPTH - FEET		8.16	FEET		
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	08/11/2014 06:30 PM	WATER COLUMN APPEARANCE		CLEAR			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	08/11/2014 06:30 PM	WATER COLOR (VISUAL)		BROWN			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	08/11/2014 06:30 PM	USER PERCEPTION OF WATER QUALITY		2-Very minor aesthetic problems			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	08/11/2014 06:30 PM	WATER LEVEL (VISUAL)		LOW			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	08/11/2014 06:30 PM	SECCHI DEPTH HIT BOTTOM		NO			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	08/03/2014 11:57 AM	SECCHI DEPTH - FEET		7	FEET		
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	08/03/2014 11:57 AM	WATER COLUMN APPEARANCE		CLEAR			

Monitoring Station

Station ID 583131
Station Name Hayward Lake - Deep Hole

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Sample Results

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	08/03/2014 11:57 AM	WATER COLOR (VISUAL)		BROWN			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	08/03/2014 11:57 AM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	08/03/2014 11:57 AM	WATER LEVEL (VISUAL)		NORMAL			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	08/03/2014 11:57 AM	SECCHI DEPTH HIT BOTTOM		NO			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	07/18/2014 12:00 PM	SECCHI DEPTH - FEET		6	FEET		
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	07/18/2014 12:00 PM	WATER COLUMN APPEARANCE		CLEAR			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	07/18/2014 12:00 PM	WATER COLOR (VISUAL)		BROWN			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	07/18/2014 12:00 PM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	07/18/2014 12:00 PM	WATER LEVEL (VISUAL)		HIGH			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	07/18/2014 12:00 PM	SECCHI DEPTH HIT BOTTOM		NO			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	07/10/2014 11:52 AM	SECCHI DEPTH - FEET		6.25	FEET		
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	07/10/2014 11:52 AM	WATER COLUMN APPEARANCE		CLEAR			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	07/10/2014 11:52 AM	WATER COLOR (VISUAL)		BROWN			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	07/10/2014 11:52 AM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	07/10/2014 11:52 AM	WATER LEVEL (VISUAL)		HIGH			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	07/10/2014 11:52 AM	SECCHI DEPTH HIT BOTTOM		NO			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	07/02/2014 02:00 PM	SECCHI DEPTH - FEET		6.5	FEET		
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	07/02/2014 02:00 PM	WATER COLUMN APPEARANCE		CLEAR			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	07/02/2014 02:00 PM	WATER COLOR (VISUAL)		BROWN			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	07/02/2014 02:00 PM	USER PERCEPTION OF WATER QUALITY		2-Very minor aesthetic problems			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	07/02/2014 02:00 PM	WATER LEVEL (VISUAL)		NORMAL			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	07/02/2014 02:00 PM	SECCHI DEPTH HIT BOTTOM		NO			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	06/24/2014 11:00 AM	SECCHI DEPTH - FEET		6	FEET		
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	06/24/2014 11:00 AM	WATER COLUMN APPEARANCE		CLEAR			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	06/24/2014 11:00 AM	WATER COLOR (VISUAL)		BROWN			

Monitoring Station

Station ID 583131
Station Name Hayward Lake - Deep Hole

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	06/24/2014 11:00 AM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	06/24/2014 11:00 AM	WATER LEVEL (VISUAL)		NORMAL			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	06/24/2014 11:00 AM	SECCHI DEPTH HIT BOTTOM		NO			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	06/16/2014 01:00 PM	SECCHI DEPTH - FEET		5	FEET		
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	06/16/2014 01:00 PM	WATER COLUMN APPEARANCE		CLEAR			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	06/16/2014 01:00 PM	WATER COLOR (VISUAL)		BROWN			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	06/16/2014 01:00 PM	USER PERCEPTION OF WATER QUALITY		2-Very minor aesthetic problems			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	06/16/2014 01:00 PM	WATER LEVEL (VISUAL)		HIGH			
SAWYER COUNTY: Lake Hayward Hybrid Milfoil Control Project	06/16/2014 01:00 PM	SECCHI DEPTH HIT BOTTOM		NO			
Citizen Lake Monitoring - Water Quality - Hayward Lake - Deep Hole	06/08/2014 12:00 PM	SECCHI DEPTH - FEET		5	FEET		
Citizen Lake Monitoring - Water Quality - Hayward Lake - Deep Hole	06/08/2014 12:00 PM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Hayward Lake - Deep Hole	06/08/2014 12:00 PM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Hayward Lake - Deep Hole	06/08/2014 12:00 PM	USER PERCEPTION OF WATER QUALITY		2-Very minor aesthetic problems			
Citizen Lake Monitoring - Water Quality - Hayward Lake - Deep Hole	06/08/2014 12:00 PM	SECCHI DEPTH HIT BOTTOM		NO			
Lake Baseline Monitoring, DNR (1970s-2006)	09/02/2003 10:30 AM	TEMPERATURE FIELD		19.5	C		
Lake Baseline Monitoring, DNR (1970s-2006)	09/02/2003 10:30 AM	TEMPERATURE FIELD		19.5	C		
Lake Baseline Monitoring, DNR (1970s-2006)	09/02/2003 10:30 AM	TEMPERATURE FIELD		19.5	C		
Lake Baseline Monitoring, DNR (1970s-2006)	09/02/2003 10:30 AM	CLOUD COVER		5	%		
Lake Baseline Monitoring, DNR (1970s-2006)	09/02/2003 10:30 AM	CLOUD COVER		5	%		
Lake Baseline Monitoring, DNR (1970s-2006)	09/02/2003 10:30 AM	CLOUD COVER		5	%		
Lake Baseline Monitoring, DNR (1970s-2006)	09/02/2003 10:30 AM	COLOR		10.	SU		
Lake Baseline Monitoring, DNR (1970s-2006)	09/02/2003 10:30 AM	CONDUCTIVITY FIELD		160	UMHOS/CM		
Lake Baseline Monitoring, DNR (1970s-2006)	09/02/2003 10:30 AM	CONDUCTIVITY FIELD		160	UMHOS/CM		
Lake Baseline Monitoring, DNR (1970s-2006)	09/02/2003 10:30 AM	CONDUCTIVITY FIELD		160	UMHOS/CM		
Lake Baseline Monitoring, DNR (1970s-2006)	09/02/2003 10:30 AM	CONDUCTIVITY, UMHOS/CM @ 25C		168.	UMHOS/CM		

Monitoring Station

Station ID 583131
Station Name Hayward Lake - Deep Hole

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Sample Results

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Lake Baseline Monitoring, DNR (1970s-2006)	09/02/2003 10:30 AM	TEMPERATURE AT LAB		ICED	C		
Lake Baseline Monitoring, DNR (1970s-2006)	09/02/2003 10:30 AM	DISSOLVED OXYGEN FIELD		9.3	MG/L		
Lake Baseline Monitoring, DNR (1970s-2006)	09/02/2003 10:30 AM	DISSOLVED OXYGEN FIELD		9.3	MG/L		
Lake Baseline Monitoring, DNR (1970s-2006)	09/02/2003 10:30 AM	DISSOLVED OXYGEN FIELD		9.3	MG/L		
Lake Baseline Monitoring, DNR (1970s-2006)	09/02/2003 10:30 AM	DISSOLVED OXYGEN FIELD		9.3	MG/L		
Lake Baseline Monitoring, DNR (1970s-2006)	09/02/2003 10:30 AM	PH FIELD		8.5	SU		
Lake Baseline Monitoring, DNR (1970s-2006)	09/02/2003 10:30 AM	PH FIELD		8.5	SU		
Lake Baseline Monitoring, DNR (1970s-2006)	09/02/2003 10:30 AM	PH FIELD		8.5	SU		
Lake Baseline Monitoring, DNR (1970s-2006)	09/02/2003 10:30 AM	PH LAB		8.21	SU		
Lake Baseline Monitoring, DNR (1970s-2006)	09/02/2003 10:30 AM	ALKALINITY TOTAL CACO3		75.	MG/L		
Lake Baseline Monitoring, DNR (1970s-2006)	09/02/2003 10:30 AM	NITROGEN KJELDAHL TOTAL		0.20	MG/L		
Lake Baseline Monitoring, DNR (1970s-2006)	09/02/2003 10:30 AM	NITROGEN NO3+NO2 DISS (AS N)		ND	MG/L		
Lake Baseline Monitoring, DNR (1970s-2006)	09/02/2003 10:30 AM	PHOSPHORUS TOTAL		0.022	MG/L		
Lake Baseline Monitoring, DNR (1970s-2006)	09/02/2003 10:30 AM	CALCIUM TOTAL RECOVERABLE		22.2	MG/L		
Lake Baseline Monitoring, DNR (1970s-2006)	09/02/2003 10:30 AM	MAGNESIUM TOTAL RECOVERABLE		6.3	MG/L		
Lake Baseline Monitoring, DNR (1970s-2006)	09/02/2003 10:30 AM	SAMPLE SIZE LITERS		1000	ML		
Lake Baseline Monitoring, DNR (1970s-2006)	09/02/2003 10:30 AM	SECCHI DEPTH - FEET		12.5	FEET		
Lake Baseline Monitoring, DNR (1970s-2006)	09/02/2003 10:30 AM	SECCHI DEPTH - FEET		12.5	FEET		
Lake Baseline Monitoring, DNR (1970s-2006)	09/02/2003 10:30 AM	SECCHI DEPTH - FEET		12.5	FEET		
Lake Baseline Monitoring, DNR (1970s-2006)	09/02/2003 10:30 AM	SECCHI DEPTH - FEET		12.5	FEET		
Lake Baseline Monitoring, DNR (1970s-2006)	09/02/2003 10:30 AM	DIG TOTAL REC SW846 3005A		COMPLETE			
Lake Baseline Monitoring, DNR (1970s-2006)	09/02/2003 10:30 AM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
Lake Baseline Monitoring, DNR (1970s-2006)	09/02/2003 10:30 AM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
Lake Baseline Monitoring, DNR (1970s-2006)	09/02/2003 10:30 AM	CHLOROPHYLL A, FLUORESCENCE (WELSCHMAYER 1994)		2.07	UG/L		
Lake Baseline Monitoring, DNR (1970s-2006)	04/22/2003 10:00 AM	TEMPERATURE AT LAB		ICED	C		

Monitoring Station

Station ID 583131
Station Name Hayward Lake - Deep Hole

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Sample Results

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Lake Baseline Monitoring, DNR (1970s-2006)	04/22/2003 10:00 AM	PHOSPHORUS TOTAL		0.020	MG/L		
Lake Baseline Monitoring, DNR (1970s-2006)	08/17/1999 10:30 AM	TEMPERATURE FIELD		20.0	C		
Lake Baseline Monitoring, DNR (1970s-2006)	08/17/1999 10:30 AM	COLOR		55.	SU		
Lake Baseline Monitoring, DNR (1970s-2006)	08/17/1999 10:30 AM	TEMPERATURE AT LAB		ICED	C		
Lake Baseline Monitoring, DNR (1970s-2006)	08/17/1999 10:30 AM	TEMPERATURE AT LAB		ICED	C		
Lake Baseline Monitoring, DNR (1970s-2006)	08/17/1999 10:30 AM	DISSOLVED OXYGEN FIELD		7.8	MG/L		
Lake Baseline Monitoring, DNR (1970s-2006)	08/17/1999 10:30 AM	DISSOLVED OXYGEN FIELD		7.8	MG/L		
Lake Baseline Monitoring, DNR (1970s-2006)	08/17/1999 10:30 AM	PH FIELD		7.0	SU		
Lake Baseline Monitoring, DNR (1970s-2006)	08/17/1999 10:30 AM	NITROGEN KJELDAHL TOTAL		*0.62	MG/L		
Lake Baseline Monitoring, DNR (1970s-2006)	08/17/1999 10:30 AM	PHOSPHORUS TOTAL		0.030	MG/L		
Lake Baseline Monitoring, DNR (1970s-2006)	08/17/1999 10:30 AM	PHOSPHORUS TOTAL		0.031	MG/L		
Lake Baseline Monitoring, DNR (1970s-2006)	08/17/1999 10:30 AM	SAMPLE SIZE LITERS		800	ML		
Lake Baseline Monitoring, DNR (1970s-2006)	08/17/1999 10:30 AM	CHLOROPHYLL A UNCORRECTED		*0.57	UG/L		
Lake Baseline Monitoring, DNR (1970s-2006)	08/17/1999 10:30 AM	SECCHI DEPTH - FEET		6.5	FEET		
Lake Baseline Monitoring, DNR (1970s-2006)	08/17/1999 10:30 AM	SECCHI DEPTH - FEET		6.5	FEET		
General Surface Water Monitoring 1999-2001	07/12/1999 01:00 PM	TEMPERATURE FIELD		21.2	C		
General Surface Water Monitoring 1999-2001	07/12/1999 01:00 PM	TEMPERATURE FIELD		18.1	C		
General Surface Water Monitoring 1999-2001	07/12/1999 01:00 PM	AMBIENT AIR TEMPERATURE - FIELD		26.0	C		
General Surface Water Monitoring 1999-2001	07/12/1999 01:00 PM	CLOUD COVER		75	%		
General Surface Water Monitoring 1999-2001	07/12/1999 01:00 PM	COLOR		*50.	SU		
General Surface Water Monitoring 1999-2001	07/12/1999 01:00 PM	TEMPERATURE AT LAB		ICED	C		
General Surface Water Monitoring 1999-2001	07/12/1999 01:00 PM	TEMPERATURE AT LAB		ICED	C		
General Surface Water Monitoring 1999-2001	07/12/1999 01:00 PM	DISSOLVED OXYGEN FIELD		6.0	MG/L		
General Surface Water Monitoring 1999-2001	07/12/1999 01:00 PM	DISSOLVED OXYGEN FIELD		8.6	MG/L		
General Surface Water Monitoring 1999-2001	07/12/1999 01:00 PM	PH FIELD		7.8	SU		

Monitoring Station

Station ID 583131
Station Name Hayward Lake - Deep Hole

Show specific parameter: <Show All>

Sample Results

Previous 151-175 of 207 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
General Surface Water Monitoring 1999-2001	07/12/1999 01:00 PM	PH FIELD		7.4	SU		
General Surface Water Monitoring 1999-2001	07/12/1999 01:00 PM	PHOSPHORUS TOTAL		0.042	MG/L		
General Surface Water Monitoring 1999-2001	07/12/1999 01:00 PM	PHOSPHORUS TOTAL		0.036	MG/L		
General Surface Water Monitoring 1999-2001	07/12/1999 01:00 PM	SAMPLE SIZE LITERS		500	ML		
General Surface Water Monitoring 1999-2001	07/12/1999 01:00 PM	CHLOROPHYLL A UNCORRECTED		*5.15	UG/L		
General Surface Water Monitoring 1999-2001	07/12/1999 01:00 PM	SECCHI DEPTH - FEET		4.5	FEET		
LAKE EVAL BASIC	06/10/1999 09:40 AM	TEMPERATURE FIELD		17.7	C		
LAKE EVAL BASIC	06/10/1999 09:40 AM	TEMPERATURE AT LAB		ICED	C		
LAKE EVAL BASIC	06/10/1999 09:40 AM	DISSOLVED OXYGEN FIELD		2.4	MG/L		
LAKE EVAL BASIC	06/10/1999 09:40 AM	PH FIELD		7.5	SU		
LAKE EVAL BASIC	06/10/1999 09:40 AM	PHOSPHORUS TOTAL		0.034	MG/L		
LAKE EVAL BASIC	06/10/1999 09:30 AM	TEMPERATURE FIELD		23.5	C		
LAKE EVAL BASIC	06/10/1999 09:30 AM	AMBIENT AIR TEMPERATURE - FIELD		22.0	C		
LAKE EVAL BASIC	06/10/1999 09:30 AM	CLOUD COVER		100	%		
LAKE EVAL BASIC	06/10/1999 09:30 AM	COLOR		*50.	SU		
LAKE EVAL BASIC	06/10/1999 09:30 AM	TEMPERATURE AT LAB		ICED	C		
LAKE EVAL BASIC	06/10/1999 09:30 AM	DISSOLVED OXYGEN FIELD		7.6	MG/L		
LAKE EVAL BASIC	06/10/1999 09:30 AM	PH FIELD		7.9	SU		
LAKE EVAL BASIC	06/10/1999 09:30 AM	PHOSPHORUS TOTAL		0.032	MG/L		
LAKE EVAL BASIC	06/10/1999 09:30 AM	SAMPLE SIZE LITERS		600	ML		
LAKE EVAL BASIC	06/10/1999 09:30 AM	CHLOROPHYLL A UNCORRECTED		3.01	UG/L		
LAKE EVAL BASIC	06/10/1999 09:30 AM	SECCHI DEPTH - FEET		6.0	FEET		
LAKE EVAL BASIC	05/04/1999 01:10 PM	TEMPERATURE FIELD		16.7	C		
LAKE EVAL BASIC	05/04/1999 01:10 PM	TEMPERATURE AT LAB		ICED	C		
LAKE EVAL BASIC	05/04/1999 01:10 PM	DISSOLVED OXYGEN FIELD		8.8	MG/L		

Monitoring Station

Station ID 583131
Station Name Hayward Lake - Deep Hole

Show specific parameter: <Show All>

Sample Results

Previous 176-200 of 207 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
LAKE EVAL BASIC	05/04/1999 01:10 PM	PH FIELD		7.2	SU		
LAKE EVAL BASIC	05/04/1999 01:10 PM	PHOSPHORUS TOTAL		0.028	MG/L		
LAKE EVAL BASIC	05/04/1999 01:00 PM	TEMPERATURE FIELD		17.1	C		
LAKE EVAL BASIC	05/04/1999 01:00 PM	CLOUD COVER		40	%		
LAKE EVAL BASIC	05/04/1999 01:00 PM	COLOR		*20	SU		
LAKE EVAL BASIC	05/04/1999 01:00 PM	CONDUCTIVITY, UMHOS/CM @ 25C		170.	UMHOS/CM		
LAKE EVAL BASIC	05/04/1999 01:00 PM	TEMPERATURE AT LAB		ICED	C		
LAKE EVAL BASIC	05/04/1999 01:00 PM	DISSOLVED OXYGEN FIELD		8.8	MG/L		
LAKE EVAL BASIC	05/04/1999 01:00 PM	PH FIELD		7.2	SU		
LAKE EVAL BASIC	05/04/1999 01:00 PM	PH LAB		7.87	SU		
LAKE EVAL BASIC	05/04/1999 01:00 PM	ALKALINITY TOTAL CACO3		70.	MG/L		
LAKE EVAL BASIC	05/04/1999 01:00 PM	PHOSPHORUS TOTAL		0.029	MG/L		
LAKE EVAL BASIC	05/04/1999 01:00 PM	HARDNESS TOTAL CACO3		73.	MG/L		
LAKE EVAL BASIC	05/04/1999 01:00 PM	CALCIUM TOTAL		20.	MG/L		
LAKE EVAL BASIC	05/04/1999 01:00 PM	MAGNESIUM TOTAL		5.6	MG/L		
LAKE EVAL BASIC	05/04/1999 01:00 PM	CHLORIDE		3.0	MG/L		
LAKE EVAL BASIC	05/04/1999 01:00 PM	SAMPLE SIZE LITERS		800	ML		
LAKE EVAL BASIC	05/04/1999 01:00 PM	CHLOROPHYLL A UNCORRECTED		*3.01	UG/L		
LAKE EVAL BASIC	05/04/1999 01:00 PM	SECCHI DEPTH - FEET		6.7	FEET		
Statewide Sediment Analysis 1988-1989	06/26/1989 02:50 PM	BARIUM		170.	MG/KG		
Statewide Sediment Analysis 1988-1989	06/26/1989 02:50 PM	CHROMIUM		64.	MG/KG		
Statewide Sediment Analysis 1988-1989	06/26/1989 02:50 PM	COPPER		41.	MG/KG		
Statewide Sediment Analysis 1988-1989	06/26/1989 02:50 PM	LEAD		90.	MG/KG		
Statewide Sediment Analysis 1988-1989	06/26/1989 02:50 PM	SELENIUM		<2	MG/KG		
Statewide Sediment Analysis 1988-1989	06/26/1989 02:50 PM	ZINC		140.	MG/KG		

Monitoring Station

Station ID 583131
Station Name Hayward Lake - Deep Hole

Show specific parameter: <Show All>

Sample Results

Previous 201-207 of 207 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Statewide Sediment Analysis 1988-1989	06/26/1989 02:50 PM	NICKEL		16.	MG/KG		
Statewide Sediment Analysis 1988-1989	06/26/1989 02:50 PM	ARSENIC		11.	MG/KG		
Statewide Sediment Analysis 1988-1989	06/26/1989 02:50 PM	CADMIUM		2.	MG/KG		
Statewide Sediment Analysis 1988-1989	06/26/1989 02:50 PM	CYANIDE		6.	MG/KG		
Statewide Sediment Analysis 1988-1989	06/26/1989 02:50 PM	MOISTURE		88.3	%		
Statewide Sediment Analysis 1988-1989	06/26/1989 02:50 PM	SOLIDS VOLATILE		29.	%		
Statewide Sediment Analysis 1988-1989	06/26/1989 02:50 PM	MERCURY		0.63	MG/KG		

Monitoring Station

Station ID 10021884
Station Name Namekagon River at Hospital Rd.

Show specific parameter: <Show All>

Sample Results

Previous 1-25 of 123 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
NOR Watershed Rotation Sites (Non_LTT)	09/01/2008 09:15 AM	TEMPERATURE FIELD		18.5	C		
NOR Watershed Rotation Sites (Non_LTT)	09/01/2008 09:15 AM	TEMPERATURE AT LAB		10.	C		
NOR Watershed Rotation Sites (Non_LTT)	09/01/2008 09:15 AM	DISSOLVED OXYGEN FIELD		8.2	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	09/01/2008 09:15 AM	PH FIELD		7.9	SU		
NOR Watershed Rotation Sites (Non_LTT)	09/01/2008 09:15 AM	RESIDUE TOTAL NFLT (TOTAL SUSPENDED SOLIDS)		*3	MG/L		SAMPLE RECEIVED WITH ICE MELTED
NOR Watershed Rotation Sites (Non_LTT)	09/01/2008 09:15 AM	NITROGEN NH3-N DISS		*ND	MG/L		SAMPLE RECEIVED WITH ICE MELTED
NOR Watershed Rotation Sites (Non_LTT)	09/01/2008 09:15 AM	NITROGEN KJELDAHL TOTAL		*0.19	MG/L		SAMPLE RECEIVED WITH ICE MELTED
NOR Watershed Rotation Sites (Non_LTT)	09/01/2008 09:15 AM	NITROGEN NO3+NO2 DISS (AS N)		*0.028	MG/L		SAMPLE RECEIVED WITH ICE MELTED
NOR Watershed Rotation Sites (Non_LTT)	09/01/2008 09:15 AM	PHOSPHORUS TOTAL		*0.022	MG/L		SAMPLE RECEIVED WITH ICE MELTED
NOR Watershed Rotation Sites (Non_LTT)	09/01/2008 09:15 AM	TRANSPARENCY TUBE MEASUREMENT		>120.0	CM		
2018 CWA Impairment Assessments	09/01/2008 12:00 AM	River Stream 10 Year Median TP Assessment Value		23	UG/L		
2018 CWA Impairment Assessments	09/01/2008 12:00 AM	River Stream 10 Year TP Upper 90% Percentile Assessment Value		24.971	UG/L		
2018 CWA Impairment Assessments	09/01/2008 12:00 AM	River Stream 10 Year TP Lower 90% Percentile Assessment Value		21.896	UG/L		
NOR Watershed Rotation Sites (Non_LTT)	08/15/2008 09:45 AM	TEMPERATURE FIELD		17.2	C		
NOR Watershed Rotation Sites (Non_LTT)	08/15/2008 09:45 AM	TEMPERATURE AT LAB		ICED	C		
NOR Watershed Rotation Sites (Non_LTT)	08/15/2008 09:45 AM	DISSOLVED OXYGEN FIELD		8.6	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	08/15/2008 09:45 AM	PH FIELD		7.8	SU		
NOR Watershed Rotation Sites (Non_LTT)	08/15/2008 09:45 AM	RESIDUE TOTAL NFLT (TOTAL SUSPENDED SOLIDS)		3.	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	08/15/2008 09:45 AM	NITROGEN NH3-N DISS		ND	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	08/15/2008 09:45 AM	NITROGEN KJELDAHL TOTAL		0.22	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	08/15/2008 09:45 AM	NITROGEN NO3+NO2 DISS (AS N)		0.020	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	08/15/2008 09:45 AM	PHOSPHORUS TOTAL		0.021	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	08/15/2008 09:45 AM	TRANSPARENCY TUBE MEASUREMENT		>120.0	CM		
NOR Watershed Rotation Sites (Non_LTT)	07/09/2008 10:30 AM	TEMPERATURE FIELD		18.6	C		
NOR Watershed Rotation	07/09/2008	TEMPERATURE AT LAB		ICED	C		

Sites (Non_LTT)	10:30 AM

Monitoring Station

Station ID 10021884
Station Name Namekagon River at Hospital Rd.

Show specific parameter: <Show All>

Sample Results

Previous 26-50 of 123 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
NOR Watershed Rotation Sites (Non_LTT)	07/09/2008 10:30 AM	DISSOLVED OXYGEN FIELD		8.9	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	07/09/2008 10:30 AM	PH FIELD		7.9	SU		
NOR Watershed Rotation Sites (Non_LTT)	07/09/2008 10:30 AM	RESIDUE TOTAL NFLT (TOTAL SUSPENDED SOLIDS)		3.	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	07/09/2008 10:30 AM	NITROGEN NH3-N DISS		ND	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	07/09/2008 10:30 AM	NITROGEN KJELDAHL TOTAL		0.31	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	07/09/2008 10:30 AM	NITROGEN NO3+NO2 DISS (AS N)		ND	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	07/09/2008 10:30 AM	PHOSPHORUS TOTAL		0.024	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	07/09/2008 10:30 AM	TRANSPARENCY TUBE MEASUREMENT		>120.0	CM		
NOR Watershed Rotation Sites (Non_LTT)	06/03/2008 07:00 AM	TEMPERATURE FIELD		13.6	C		
NOR Watershed Rotation Sites (Non_LTT)	06/03/2008 07:00 AM	TEMPERATURE AT LAB		ICED	C		
NOR Watershed Rotation Sites (Non_LTT)	06/03/2008 07:00 AM	DISSOLVED OXYGEN FIELD		10.2	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	06/03/2008 07:00 AM	PH FIELD		7.7	SU		
NOR Watershed Rotation Sites (Non_LTT)	06/03/2008 07:00 AM	RESIDUE TOTAL NFLT (TOTAL SUSPENDED SOLIDS)		4.	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	06/03/2008 07:00 AM	NITROGEN NH3-N DISS		0.020	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	06/03/2008 07:00 AM	NITROGEN KJELDAHL TOTAL		0.43	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	06/03/2008 07:00 AM	NITROGEN NO3+NO2 DISS (AS N)		0.020	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	06/03/2008 07:00 AM	PHOSPHORUS TOTAL		0.027	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	06/03/2008 07:00 AM	TRANSPARENCY TUBE MEASUREMENT		>120	CM		
NOR Watershed Rotation Sites (Non_LTT)	05/13/2008 08:45 AM	TEMPERATURE FIELD		9.4	C		
NOR Watershed Rotation Sites (Non_LTT)	05/13/2008 08:45 AM	TEMPERATURE AT LAB		ICED	C		
NOR Watershed Rotation Sites (Non_LTT)	05/13/2008 08:45 AM	DISSOLVED OXYGEN FIELD		12.1	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	05/13/2008 08:45 AM	PH FIELD		7.6	SU		
NOR Watershed Rotation Sites (Non_LTT)	05/13/2008 08:45 AM	RESIDUE TOTAL NFLT (TOTAL SUSPENDED SOLIDS)		ND	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	05/13/2008 08:45 AM	NITROGEN NH3-N DISS		ND	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	05/13/2008 08:45 AM	NITROGEN KJELDAHL TOTAL		0.30	MG/L		

Monitoring Station

Station ID 10021884
Station Name Namekagon River at Hospital Rd.

Show specific parameter: <Show All>

Sample Results

Previous 51-75 of 123 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
NOR Watershed Rotation Sites (Non_LTT)	05/13/2008 08:45 AM	NITROGEN NO3+NO2 DISS (AS N)		0.025	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	05/13/2008 08:45 AM	PHOSPHORUS TOTAL		0.021	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	05/13/2008 08:45 AM	TRANSPARENCY TUBE MEASUREMENT		>120	CM		
NOR Watershed Rotation Sites (Non_LTT)	04/02/2008 09:45 AM	TEMPERATURE FIELD		3.0	C		
NOR Watershed Rotation Sites (Non_LTT)	04/02/2008 09:45 AM	TEMPERATURE AT LAB		ICED	C		
NOR Watershed Rotation Sites (Non_LTT)	04/02/2008 09:45 AM	DISSOLVED OXYGEN FIELD		13.3	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	04/02/2008 09:45 AM	PH FIELD		7.6	SU		
NOR Watershed Rotation Sites (Non_LTT)	04/02/2008 09:45 AM	RESIDUE TOTAL NFLT (TOTAL SUSPENDED SOLIDS)		5.	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	04/02/2008 09:45 AM	NITROGEN NH3-N DISS		ND	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	04/02/2008 09:45 AM	NITROGEN KJELDAHL TOTAL		0.15	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	04/02/2008 09:45 AM	NITROGEN NO3+NO2 DISS (AS N)		0.136	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	04/02/2008 09:45 AM	PHOSPHORUS TOTAL		0.023	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	04/02/2008 09:45 AM	TRANSPARENCY TUBE MEASUREMENT		>120.0	CM		
NOR Watershed Rotation Sites (Non_LTT)	03/07/2008 09:15 AM	TEMPERATURE FIELD		0.1	C		
NOR Watershed Rotation Sites (Non_LTT)	03/07/2008 09:15 AM	TEMPERATURE AT LAB		ICED	C		
NOR Watershed Rotation Sites (Non_LTT)	03/07/2008 09:15 AM	DISSOLVED OXYGEN FIELD		13.5	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	03/07/2008 09:15 AM	PH FIELD		7.3	SU		
NOR Watershed Rotation Sites (Non_LTT)	03/07/2008 09:15 AM	RESIDUE TOTAL NFLT (TOTAL SUSPENDED SOLIDS)		4.	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	03/07/2008 09:15 AM	NITROGEN NH3-N DISS		ND	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	03/07/2008 09:15 AM	NITROGEN KJELDAHL TOTAL		ND	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	03/07/2008 09:15 AM	NITROGEN NO3+NO2 DISS (AS N)		0.198	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	03/07/2008 09:15 AM	PHOSPHORUS TOTAL		0.024	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	03/07/2008 09:15 AM	TRANSPARENCY TUBE MEASUREMENT		>120.0	CM		
NOR Watershed Rotation Sites (Non_LTT)	02/06/2008 10:45 AM	TEMPERATURE FIELD		0.1	C		
NOR Watershed Rotation Sites (Non_LTT)	02/06/2008 10:45 AM	TEMPERATURE AT LAB		ICED	C		

Monitoring Station

Station ID 10021884
Station Name Namekagon River at Hospital Rd.

Show specific parameter: <Show All>

Sample Results

Previous 76-100 of 123 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
NOR Watershed Rotation Sites (Non_LTT)	02/06/2008 10:45 AM	DISSOLVED OXYGEN FIELD		13.5	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	02/06/2008 10:45 AM	PH FIELD		7.3	SU		
NOR Watershed Rotation Sites (Non_LTT)	02/06/2008 10:45 AM	RESIDUE TOTAL NFLT (TOTAL SUSPENDED SOLIDS)		ND	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	02/06/2008 10:45 AM	NITROGEN NH3-N DISS		ND	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	02/06/2008 10:45 AM	NITROGEN KJELDAHL TOTAL		0.17	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	02/06/2008 10:45 AM	NITROGEN NO3+NO2 DISS (AS N)		0.213	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	02/06/2008 10:45 AM	PHOSPHORUS TOTAL		0.017	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	02/06/2008 10:45 AM	TRANSPARENCY TUBE MEASUREMENT		>120	CM		
NOR Watershed Rotation Sites (Non_LTT)	01/04/2008 09:30 AM	TEMPERATURE FIELD		0.0	C		
NOR Watershed Rotation Sites (Non_LTT)	01/04/2008 09:30 AM	TEMPERATURE AT LAB		ICED	C		
NOR Watershed Rotation Sites (Non_LTT)	01/04/2008 09:30 AM	DISSOLVED OXYGEN FIELD		12.7	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	01/04/2008 09:30 AM	PH FIELD		7.3	SU		
NOR Watershed Rotation Sites (Non_LTT)	01/04/2008 09:30 AM	RESIDUE TOTAL NFLT (TOTAL SUSPENDED SOLIDS)		*<2	MG/L		LOW VOLUME LAB ACCIDENT
NOR Watershed Rotation Sites (Non_LTT)	01/04/2008 09:30 AM	NITROGEN NH3-N DISS		0.024	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	01/04/2008 09:30 AM	NITROGEN KJELDAHL TOTAL		*0.29	MG/L		SPIKE QC EXCEEDED
NOR Watershed Rotation Sites (Non_LTT)	01/04/2008 09:30 AM	NITROGEN NO3+NO2 DISS (AS N)		0.205	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	01/04/2008 09:30 AM	PHOSPHORUS TOTAL		0.017	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	01/04/2008 09:30 AM	TRANSPARENCY TUBE MEASUREMENT		>120	CM		
NOR Watershed Rotation Sites (Non_LTT)	12/13/2007 09:30 AM	TEMPERATURE FIELD		0.1	C		
NOR Watershed Rotation Sites (Non_LTT)	12/13/2007 09:30 AM	TEMPERATURE AT LAB		ICED	C		
NOR Watershed Rotation Sites (Non_LTT)	12/13/2007 09:30 AM	DISSOLVED OXYGEN FIELD		12.7	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	12/13/2007 09:30 AM	PH FIELD		7.3	SU		
NOR Watershed Rotation Sites (Non_LTT)	12/13/2007 09:30 AM	RESIDUE TOTAL NFLT (TOTAL SUSPENDED SOLIDS)		*ND LOD=2	MG/L		HOLDING TIME EXCEEDED BY 1 DAY
NOR Watershed Rotation Sites (Non_LTT)	12/13/2007 09:30 AM	NITROGEN NH3-N DISS		0.046	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	12/13/2007 09:30 AM	NITROGEN KJELDAHL TOTAL		*0.24	MG/L		MATRIX SPIKE QC EXCEEDED

Monitoring Station

Station ID 10021884
Station Name Namekagon River at Hospital Rd.

Show specific parameter: <Show All>

Sample Results

Previous 101-123 of 123 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
NOR Watershed Rotation Sites (Non_LTT)	12/13/2007 09:30 AM	NITROGEN NO3+NO2 DISS (AS N)		0.211	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	12/13/2007 09:30 AM	PHOSPHORUS TOTAL		0.014	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	12/13/2007 09:30 AM	TRANSPARENCY TUBE MEASUREMENT		>120	CM		
NOR Watershed Rotation Sites (Non_LTT)	11/12/2007 09:30 AM	TEMPERATURE FIELD		4.4	C		
NOR Watershed Rotation Sites (Non_LTT)	11/12/2007 09:30 AM	TEMPERATURE AT LAB		ICED	C		
NOR Watershed Rotation Sites (Non_LTT)	11/12/2007 09:30 AM	DISSOLVED OXYGEN FIELD		12.7	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	11/12/2007 09:30 AM	PH FIELD		7.7	SU		
NOR Watershed Rotation Sites (Non_LTT)	11/12/2007 09:30 AM	RESIDUE TOTAL NFLT (TOTAL SUSPENDED SOLIDS)		ND	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	11/12/2007 09:30 AM	NITROGEN NH3-N DISS		ND	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	11/12/2007 09:30 AM	NITROGEN KJELDAHL TOTAL		0.25	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	11/12/2007 09:30 AM	NITROGEN NO3+NO2 DISS (AS N)		0.096	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	11/12/2007 09:30 AM	PHOSPHORUS TOTAL		0.011	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	11/12/2007 09:30 AM	TRANSPARENCY TUBE MEASUREMENT		>120	CM		
NOR Watershed Rotation Sites (Non_LTT)	10/04/2007 09:40 AM	TEMPERATURE FIELD		12.3	C		
NOR Watershed Rotation Sites (Non_LTT)	10/04/2007 09:40 AM	TEMPERATURE AT LAB		ICED	C		
NOR Watershed Rotation Sites (Non_LTT)	10/04/2007 09:40 AM	DISSOLVED OXYGEN FIELD		9.8	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	10/04/2007 09:40 AM	PH FIELD		7.6	SU		
NOR Watershed Rotation Sites (Non_LTT)	10/04/2007 09:40 AM	RESIDUE TOTAL NFLT (TOTAL SUSPENDED SOLIDS)		4.	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	10/04/2007 09:40 AM	NITROGEN NH3-N DISS		ND	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	10/04/2007 09:40 AM	NITROGEN KJELDAHL TOTAL		0.48	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	10/04/2007 09:40 AM	NITROGEN NO3+NO2 DISS (AS N)		0.110	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	10/04/2007 09:40 AM	PHOSPHORUS TOTAL		0.026	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	10/04/2007 09:40 AM	TRANSPARENCY TUBE MEASUREMENT		>120	CM		

APPENDIX 4.3.8.2-2 Trego Project Water Quality Monitoring Data

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
	05/31/2020 11:45 AM	TURBIDITY		2.8	NTU		
	05/31/2020 11:45 AM	COLOR		72	C		
	05/31/2020 11:45 AM	CONDUCTIVITY, UMHOS/CM @ 25C		125	UMHOS/CM		
	05/31/2020 11:45 AM	PH LAB		7.85	SU		
	05/31/2020 11:45 AM	ALKALINITY TOTAL CACO3		58	MG/L		
	05/31/2020 11:45 AM	NITROGEN NH3-N DISS		0.07	MG/L		
	05/31/2020 11:45 AM	NITROGEN KJELDAHL TOTAL		0.6	MG/L		
	05/31/2020 11:45 AM	NITROGEN NO3+NO2 DISS (AS N)		ND	MG/L		
	05/31/2020 11:45 AM	PHOSPHORUS TOTAL		0.053	MG/L		
	05/31/2020 11:45 AM	PHOSPHATE ORTHO DISS		0.01	MG/L		
	05/31/2020 11:45 AM	CALCIUM DISS		14.983	MG/L		
	05/31/2020 11:45 AM	MAGNESIUM DISS		4.35	MG/L		
	05/31/2020 11:45 AM	SODIUM DISS		2.633	MG/L		
	05/31/2020 11:45 AM	POTASSIUM DISS		0.653	MG/L		
	05/31/2020 11:45 AM	CHLORIDE		2.2	MG/L		
	05/31/2020 11:45 AM	HARDNESS, CA MG CALCULATED (MG/L AS CACO3)		55.3203	MG/L		
	10/19/2019 12:00 AM	CONDUCTIVITY, UMHOS/CM @ 25C		147	UMHOS/CM		
	10/19/2019 12:00 AM	NITROGEN NH3-N DISS		0.02	MG/L		
	10/19/2019 12:00 AM	NITROGEN KJELDAHL TOTAL		0.40	MG/L		
	10/19/2019 12:00 AM	NITROGEN NO3+NO2 DISS (AS N)		0.2	MG/L		
	10/19/2019 12:00 AM	PHOSPHORUS TOTAL		0.017	MG/L		
	10/19/2019 12:00 AM	PHOSPHATE ORTHO DISS		0.004	MG/L		
	10/19/2019 12:00 AM	CHLORIDE		4.2	MG/L		
	04/03/2019 11:30 AM	CONDUCTIVITY, UMHOS/CM @ 25C		137	UMHOS/CM		
	04/03/2019 11:30 AM	NITROGEN NH3-N DISS		ND	MG/L		

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
	04/03/2019 11:30 AM	NITROGEN KJELDAHL TOTAL		0.33	MG/L		
	04/03/2019 11:30 AM	NITROGEN NO3+NO2 DISS (AS N)		0.3	MG/L		
	04/03/2019 11:30 AM	PHOSPHORUS TOTAL		0.019	MG/L		
	04/03/2019 11:30 AM	PHOSPHATE ORTHO DISS		ND	MG/L		
	04/03/2019 11:30 AM	CHLORIDE		3.5	MG/L		
	10/27/2018 10:30 AM	TURBIDITY		17.3	NTU		
	10/27/2018 10:30 AM	TURBIDITY		17.3	NTU		
	10/27/2018 10:30 AM	COLOR		39	C		
	10/27/2018 10:30 AM	COLOR		39	C		
	10/27/2018 10:30 AM	CONDUCTIVITY, UMHOS/CM @ 25C		180	UMHOS/CM		
	10/27/2018 10:30 AM	CONDUCTIVITY, UMHOS/CM @ 25C		180	UMHOS/CM		
	10/27/2018 10:30 AM	PH LAB		8.14	SU		
	10/27/2018 10:30 AM	PH LAB		8.14	SU		
	10/27/2018 10:30 AM	ALKALINITY TOTAL CACO3		84	MG/L		
	10/27/2018 10:30 AM	ALKALINITY TOTAL CACO3		84	MG/L		
	10/27/2018 10:30 AM	NITROGEN NH3-N DISS		0.05	MG/L		
	10/27/2018 10:30 AM	NITROGEN NH3-N DISS		0.05	MG/L		
	10/27/2018 10:30 AM	NITROGEN KJELDAHL TOTAL		0.53	MG/L		
	10/27/2018 10:30 AM	NITROGEN KJELDAHL TOTAL		0.53	MG/L		
	10/27/2018 10:30 AM	NITROGEN NO3+NO2 DISS (AS N)		0.25	MG/L		
	10/27/2018 10:30 AM	NITROGEN NO3+NO2 DISS (AS N)		0.25	MG/L		
	10/27/2018 10:30 AM	PHOSPHORUS TOTAL		0.069	MG/L		
	10/27/2018 10:30 AM	PHOSPHORUS TOTAL		0.069	MG/L		
	10/27/2018 10:30 AM	PHOSPHATE ORTHO DISS		0.018	MG/L		
	10/27/2018 10:30 AM	PHOSPHATE ORTHO DISS		0.018	MG/L		

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
	10/27/2018 10:30 AM	CALCIUM DISS		24.519	MG/L		
	10/27/2018 10:30 AM	CALCIUM TOTAL RECOVERABLE		24.519	MG/L		
	10/27/2018 10:30 AM	MAGNESIUM DISS		5.696	MG/L		
	10/27/2018 10:30 AM	MAGNESIUM DISS		5.696	MG/L		
	10/27/2018 10:30 AM	SODIUM DISS		3.584	MG/L		
	10/27/2018 10:30 AM	SODIUM DISS		3.584	MG/L		
	10/27/2018 10:30 AM	POTASSIUM DISS		0.731	MG/L		
	10/27/2018 10:30 AM	POTASSIUM, TOTAL		0.731	MG/L		
	10/27/2018 10:30 AM	CHLORIDE		4.1	MG/L		
	10/27/2018 10:30 AM	CHLORIDE		4.1	MG/L		
	06/24/2018 12:00 AM	CONDUCTIVITY, UMHOS/CM @ 25C		118	UMHOS/CM		
	06/24/2018 12:00 AM	NITROGEN NH3-N DISS		0.06	MG/L		
	06/24/2018 12:00 AM	NITROGEN KJELDAHL TOTAL		0.72	MG/L		
	06/24/2018 12:00 AM	NITROGEN NO3+NO2 DISS (AS N)		0.13	MG/L		
	06/24/2018 12:00 AM	PHOSPHORUS TOTAL		0.044	MG/L		
	06/24/2018 12:00 AM	PHOSPHATE ORTHO DISS		0.009	MG/L		
	06/24/2018 12:00 AM	CHLORIDE		ND	MG/L		
	10/14/2017 12:00 AM	NITROGEN NH3-N DISS		0.07	MG/L		
	10/14/2017 12:00 AM	NITROGEN KJELDAHL TOTAL		0.49	MG/L		
	10/14/2017 12:00 AM	NITROGEN NO3+NO2 DISS (AS N)		0.22	MG/L		
	10/14/2017 12:00 AM	PHOSPHORUS TOTAL		0.029	MG/L		
	10/14/2017 12:00 AM	PHOSPHATE ORTHO DISS		0.018	MG/L		
	10/14/2017 12:00 AM	CHLORIDE		5.1	MG/L		
	04/28/2017 12:00 AM	TEMPERATURE FIELD		51	F		
	04/28/2017 12:00 AM	TURBIDITY		5.1	NTU		

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
	04/28/2017 12:00 AM	COLOR		55	COLOR UNITS		
	04/28/2017 12:00 AM	CONDUCTIVITY, UMHOS/CM @ 25C		151	US/CM@25°C		
	04/28/2017 12:00 AM	PH LAB		7.77	SU		
	04/28/2017 12:00 AM	ALKALINITY TOTAL CACO3		63	MG/L		
	04/28/2017 12:00 AM	NITROGEN NH3-N DISS		0.04	MG/L		
	04/28/2017 12:00 AM	NITROGEN KJELDAHL TOTAL		0.43	MG/L		
	04/28/2017 12:00 AM	NITROGEN NO3+NO2 DISS (AS N)		0.15	MG/L		
	04/28/2017 12:00 AM	PHOSPHORUS TOTAL		0.024	MG/L		
	04/28/2017 12:00 AM	PHOSPHATE ORTHO DISS		0.003	MG/L		
	04/28/2017 12:00 AM	CALCIUM DISS		17.753	MG/L		
	04/28/2017 12:00 AM	MAGNESIUM TOTAL		4.904	MG/L		
	04/28/2017 12:00 AM	SODIUM TOTAL		3.05	MG/L		
	04/28/2017 12:00 AM	POTASSIUM, TOTAL		0.73	MG/L		
	04/28/2017 12:00 AM	CHLORIDE		4.0	MG/L		
	04/28/2017 12:00 AM	SECCHI DEPTH - FEET		1	FEET		
	04/28/2017 12:00 AM	SULFUR		3.36	MG/L		
	10/29/2016 12:00 AM	CONDUCTIVITY, UMHOS/CM @ 25C		165	US/CM@25°C		
	10/29/2016 12:00 AM	NITROGEN NH3-N DISS		0.06	MG/L		
	10/29/2016 12:00 AM	NITROGEN KJELDAHL TOTAL		0.54	MG/L		
	10/29/2016 12:00 AM	NITROGEN NO3+NO2 DISS (AS N)		0.19	MG/L		
	10/29/2016 12:00 AM	PHOSPHORUS TOTAL		<0.006	MG/L		
	10/29/2016 12:00 AM	PHOSPHATE ORTHO DISS		0.005	MG/L		
	10/29/2016 12:00 AM	CHLORIDE		4.5	MG/L		
	10/26/2014 12:00 AM	TEMPERATURE FIELD		50.4	F		
	10/26/2014 12:00 AM	TURBIDITY		4.8	NTU		

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
	10/26/2014 12:00 AM	COLOR		45	COLOR UNITS		
	10/26/2014 12:00 AM	NITROGEN NH3-N DISS		0.04	MG/L		
	10/26/2014 12:00 AM	NITROGEN KJELDAHL TOTAL		0.35	MG/L		
	10/26/2014 12:00 AM	NITROGEN NO3+NO2 DISS (AS N)		0.34	MG/L		
	10/26/2014 12:00 AM	PHOSPHORUS TOTAL		0.021	MG/L		
	10/26/2014 12:00 AM	PHOSPHATE ORTHO DISS		0.015	MG/L		
	10/26/2014 12:00 AM	CALCIUM DISS		22.96	MG/L		
	10/26/2014 12:00 AM	MAGNESIUM TOTAL		6.358	MG/L		
	10/26/2014 12:00 AM	SODIUM TOTAL		3.6	MG/L		
	10/26/2014 12:00 AM	POTASSIUM, TOTAL		0.81	MG/L		
	10/26/2014 12:00 AM	CHLORIDE		5.7	MG/L		
	10/26/2014 12:00 AM	SECCHI DEPTH - FEET		9.5	FEET		
	10/26/2014 12:00 AM	SULFUR		4.22	MG/L		
	05/13/2014 12:00 AM	NITROGEN NH3-N DISS		0.04	MG/L		
	05/13/2014 12:00 AM	NITROGEN KJELDAHL TOTAL		0.54	MG/L		
	05/13/2014 12:00 AM	NITROGEN NO3+NO2 DISS (AS N)		0.08	MG/L		
	05/13/2014 12:00 AM	PHOSPHORUS TOTAL		0.020	MG/L		
	05/13/2014 12:00 AM	PHOSPHATE ORTHO DISS		0.009	MG/L		
	05/13/2014 12:00 AM	CHLORIDE		3.4	MG/L		
2018 CWA Impairment Assessments	06/30/2013 12:00 AM	Lake 10 Year Mean TP Assessment Value		37.3714285714286			
2018 CWA Impairment Assessments	06/30/2013 12:00 AM	Lake 10 Year TP Upper 80% Percentile Assessment Value		43.3499978744237			
2018 CWA Impairment Assessments	06/30/2013 12:00 AM	Lake 10 Year TP Lower 80% Percentile Assessment Value		28.1218526739864			
2018 CWA Impairment Assessments	06/30/2013 12:00 AM	Assessment Lake Station Natural Community		Impounded Flowing Water			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/12/2013 01:00 PM	PHOSPHORUS TOTAL		0.0462	MG/L		
	06/12/2013 12:00 AM	TEMPERATURE FIELD		72	F		

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
	06/12/2013 12:00 AM	CONDUCTIVITY, UMHOS/CM @ 25C		116	US/CM@25°C		
	06/12/2013 12:00 AM	NITROGEN NH3-N DISS		0.01	MG/L		
	06/12/2013 12:00 AM	NITROGEN KJELDAHL TOTAL		0.91	MG/L		
	06/12/2013 12:00 AM	NITROGEN NO3+NO2 DISS (AS N)		0.08	MG/L		
	06/12/2013 12:00 AM	PHOSPHORUS TOTAL		0.069	MG/L		
	06/12/2013 12:00 AM	PHOSPHATE ORTHO DISS		0.006	MG/L		
	06/12/2013 12:00 AM	CHLORIDE		3.6	MG/L		
	06/12/2013 12:00 AM	SECCHI DEPTH - FEET		3.25	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/30/2012 02:00 PM	TEMPERATURE FIELD		43.1	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/30/2012 02:00 PM	TEMPERATURE FIELD		42	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/30/2012 02:00 PM	TEMPERATURE FIELD		43.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/30/2012 02:00 PM	TEMPERATURE FIELD		41.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/30/2012 02:00 PM	TEMPERATURE FIELD		42.2	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/30/2012 02:00 PM	TEMPERATURE FIELD		42	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/30/2012 02:00 PM	TEMPERATURE FIELD		42.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/30/2012 02:00 PM	TEMPERATURE FIELD		42	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/30/2012 02:00 PM	SECCHI DEPTH - FEET		10	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/30/2012 02:00 PM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/30/2012 02:00 PM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/30/2012 02:00 PM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/30/2012 02:00 PM	WATER LEVEL (STAFF GAUGE)		1035	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/30/2012 02:00 PM	SECCHI DEPTH HIT BOTTOM		NO			
	10/30/2012	TEMPERATURE FIELD		43.9	F		

12:00 AM			
10/30/2012 12:00 AM	CONDUCTIVITY, UMHOS/CM @ 25C	174	US/CM@25°C
10/30/2012 12:00 AM	NITROGEN NH3-N DISS	0.04	MG/L

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

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Sample Results

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
	10/30/2012 12:00 AM	NITROGEN KJELDAHL TOTAL		0.19	MG/L		
	10/30/2012 12:00 AM	NITROGEN NO3+NO2 DISS (AS N)		0.23	MG/L		
	10/30/2012 12:00 AM	PHOSPHORUS TOTAL		0.019	MG/L		
	10/30/2012 12:00 AM	PHOSPHATE ORTHO DISS		0.028	MG/L		
	10/30/2012 12:00 AM	CHLORIDE		5.1	MG/L		
	10/30/2012 12:00 AM	SECCHI DEPTH - FEET		10	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/06/2012 02:00 PM	TEMPERATURE FIELD		46.4	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/06/2012 02:00 PM	TEMPERATURE FIELD		46.9	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/06/2012 02:00 PM	TEMPERATURE FIELD		46.2	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/06/2012 02:00 PM	TEMPERATURE FIELD		46	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/06/2012 02:00 PM	TEMPERATURE FIELD		45.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/06/2012 02:00 PM	TEMPERATURE FIELD		45.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/06/2012 02:00 PM	TEMPERATURE FIELD		45.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/06/2012 02:00 PM	TEMPERATURE FIELD		45.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/06/2012 02:00 PM	SECCHI DEPTH - FEET		12	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/06/2012 02:00 PM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/06/2012 02:00 PM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/06/2012 02:00 PM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/06/2012 02:00 PM	WATER LEVEL (STAFF GAUGE)		1035	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/06/2012 02:00 PM	SECCHI DEPTH HIT BOTTOM		NO			
2018 CWA Impairment Assessments	09/30/2012 12:00 AM	Lake 10 Year Mean Chla FAL Assessment Value		12.9183333333333			
2018 CWA Impairment Assessments	09/30/2012 12:00 AM	Lake 10 Year Chla Upper 80% Percentile Assessment Value		20.0457705125781			

2018 CWA Impairment Assessments	09/30/2012 12:00 AM	Lake 10 Year Chla Lower 80% Percentile Assessment Value	5.79089615408861
2018 CWA Impairment Assessments	09/30/2012 12:00 AM	Lake 10 Year Mean Chla REC Assessment Value	28.5
2018 CWA Impairment Assessments	09/30/2012 12:00 AM	Lake 10 Year Chla REC Upper 80% Percentile Assessment Value	56.5

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
2018 CWA Impairment Assessments	09/30/2012 12:00 AM	Lake 10 Year Chla REC Lower 80% Percentile Assessment Value		9.5			
2018 CWA Impairment Assessments	09/30/2012 12:00 AM	Assessment Lake Station Natural Community		Impounded Flowing Water			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/11/2012 12:00 PM	TEMPERATURE FIELD		68.1	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/11/2012 12:00 PM	TEMPERATURE FIELD		68.1	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/11/2012 12:00 PM	TEMPERATURE FIELD		68	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/11/2012 12:00 PM	TEMPERATURE FIELD		64.7	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/11/2012 12:00 PM	TEMPERATURE FIELD		63.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/11/2012 12:00 PM	TEMPERATURE FIELD		63.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/11/2012 12:00 PM	TEMPERATURE FIELD		68.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/11/2012 12:00 PM	TEMPERATURE FIELD		63.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/11/2012 12:00 PM	TEMPERATURE AT LAB		ICED	C		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/11/2012 12:00 PM	PHOSPHORUS TOTAL		0.018	MG/L		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/11/2012 12:00 PM	SAMPLE SIZE LITERS		200	ML		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/11/2012 12:00 PM	SECCHI DEPTH - FEET		8	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/11/2012 12:00 PM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/11/2012 12:00 PM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/11/2012 12:00 PM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/11/2012 12:00 PM	WATER LEVEL (STAFF GAUGE)		1035	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/11/2012 12:00 PM	SECCHI DEPTH HIT BOTTOM		NO			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/11/2012 12:00 PM	CHLOROPHYLL A, FLUORESCENCE (WELSCHMAYER 1994)		6.80	UG/L		
Citizen Lake Monitoring - Water	08/22/2012	TEMPERATURE FIELD		66.5	DEGREES		

Quality - Trego Lake; Deep Hole Near Dam	02:00 PM			F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/22/2012 02:00 PM	TEMPERATURE FIELD	71	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/22/2012 02:00 PM	TEMPERATURE FIELD	69.8	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/22/2012 02:00 PM	TEMPERATURE FIELD	68	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/22/2012 02:00 PM	TEMPERATURE FIELD	67.4	DEGREES F

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

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Sample Results

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/22/2012 02:00 PM	TEMPERATURE FIELD		67.4	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/22/2012 02:00 PM	TEMPERATURE FIELD		66.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/22/2012 02:00 PM	TEMPERATURE FIELD		66.7	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/22/2012 02:00 PM	SECCHI DEPTH - FEET		15	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/22/2012 02:00 PM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/22/2012 02:00 PM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/22/2012 02:00 PM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/22/2012 02:00 PM	WATER LEVEL (STAFF GAUGE)		1035	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/22/2012 02:00 PM	SECCHI DEPTH HIT BOTTOM		NO			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/30/2012 02:00 PM	TEMPERATURE FIELD		78.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/30/2012 02:00 PM	TEMPERATURE FIELD		80.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/30/2012 02:00 PM	TEMPERATURE FIELD		76.4	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/30/2012 02:00 PM	TEMPERATURE FIELD		75.3	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/30/2012 02:00 PM	TEMPERATURE FIELD		74.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/30/2012 02:00 PM	TEMPERATURE FIELD		74.4	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/30/2012 02:00 PM	TEMPERATURE FIELD		71.4	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/30/2012 02:00 PM	TEMPERATURE FIELD		74.1	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/30/2012 02:00 PM	TEMPERATURE AT LAB		ICED	C		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/30/2012 02:00 PM	PHOSPHORUS TOTAL		0.025	MG/L		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/30/2012 02:00 PM	SAMPLE SIZE LITERS		200	ML		

Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/30/2012 02:00 PM	SECCHI DEPTH - FEET	6	FEET
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/30/2012 02:00 PM	WATER COLUMN APPEARANCE	CLEAR	
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/30/2012 02:00 PM	WATER COLOR (VISUAL)	BROWN	
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/30/2012 02:00 PM	USER PERCEPTION OF WATER QUALITY	1-Beautiful, could not be nicer	
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/30/2012 02:00 PM	WATER LEVEL (STAFF GAUGE)	1035	FEET

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

Previous 226-250 of 1793 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/30/2012 02:00 PM	SECCHI DEPTH HIT BOTTOM		NO			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/30/2012 02:00 PM	CHLOROPHYLL A, FLUORESCENCE (WELSCHMAYER 1994)		8.92	UG/L		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/07/2012 05:00 AM	TEMPERATURE FIELD		75.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/07/2012 05:00 AM	TEMPERATURE FIELD		75.7	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/07/2012 05:00 AM	TEMPERATURE FIELD		78.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/07/2012 05:00 AM	TEMPERATURE FIELD		83.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/07/2012 05:00 AM	TEMPERATURE FIELD		81.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/07/2012 05:00 AM	TEMPERATURE FIELD		79.1	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/07/2012 05:00 AM	TEMPERATURE FIELD		80.2	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/07/2012 05:00 AM	TEMPERATURE FIELD		80.9	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/07/2012 05:00 AM	SECCHI DEPTH - FEET		4	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/07/2012 05:00 AM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/07/2012 05:00 AM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/07/2012 05:00 AM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/07/2012 05:00 AM	WATER LEVEL (STAFF GAUGE)		1035	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/07/2012 05:00 AM	SECCHI DEPTH HIT BOTTOM		NO			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/26/2012 03:00 PM	TEMPERATURE FIELD		68	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/26/2012 03:00 PM	TEMPERATURE FIELD		68.7	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/26/2012 03:00 PM	TEMPERATURE FIELD		69.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/26/2012 03:00 PM	TEMPERATURE FIELD		70.3	DEGREES F		

Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/26/2012 03:00 PM	TEMPERATURE FIELD	71.2	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/26/2012 03:00 PM	TEMPERATURE FIELD	71.9	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/26/2012 03:00 PM	TEMPERATURE FIELD	73.4	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/26/2012 03:00 PM	TEMPERATURE FIELD	75	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/26/2012 03:00 PM	TEMPERATURE AT LAB	ICED	C

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

Previous 276-300 of 1793 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/09/2012 04:00 PM	TEMPERATURE FIELD		58.4	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/09/2012 04:00 PM	TEMPERATURE FIELD		58.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/09/2012 04:00 PM	TEMPERATURE FIELD		59	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/09/2012 04:00 PM	TEMPERATURE FIELD		59.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/09/2012 04:00 PM	TEMPERATURE FIELD		58.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/09/2012 04:00 PM	TEMPERATURE FIELD		60.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/09/2012 04:00 PM	SECCHI DEPTH - FEET		4.5	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/09/2012 04:00 PM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/09/2012 04:00 PM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/09/2012 04:00 PM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/09/2012 04:00 PM	WATER LEVEL (STAFF GAUGE)		1035	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/09/2012 04:00 PM	SECCHI DEPTH HIT BOTTOM		NO			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/17/2012 03:00 PM	TEMPERATURE FIELD		50.1	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/17/2012 03:00 PM	TEMPERATURE FIELD		52.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/17/2012 03:00 PM	TEMPERATURE FIELD		51.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/17/2012 03:00 PM	TEMPERATURE FIELD		51.2	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/17/2012 03:00 PM	TEMPERATURE FIELD		49.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/17/2012 03:00 PM	TEMPERATURE FIELD		48	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/17/2012 03:00 PM	TEMPERATURE FIELD		48.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/17/2012 03:00 PM	TEMPERATURE FIELD		49.2	DEGREES F		

Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/17/2012 03:00 PM	TEMPERATURE AT LAB	ICED	C
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/17/2012 03:00 PM	PHOSPHORUS TOTAL	0.028	MG/L
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/17/2012 03:00 PM	SECCHI DEPTH - FEET	7.0	FEET
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/17/2012 03:00 PM	WATER COLUMN APPEARANCE	CLEAR	
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/17/2012 03:00 PM	WATER COLOR (VISUAL)	BROWN	

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

Previous 301-325 of 1793 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/17/2012 03:00 PM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/17/2012 03:00 PM	WATER LEVEL (STAFF GAUGE)		1035	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/17/2012 03:00 PM	SECCHI DEPTH HIT BOTTOM		NO			
	04/17/2012 12:00 AM	TEMPERATURE FIELD		52.9	F		
	04/17/2012 12:00 AM	CONDUCTIVITY, UMHOS/CM @ 25C		162	US/CM@25°C		
	04/17/2012 12:00 AM	NITROGEN NH3-N DISS		0.03	MG/L		
	04/17/2012 12:00 AM	NITROGEN KJELDAHL TOTAL		0.24	MG/L		
	04/17/2012 12:00 AM	NITROGEN NO3+NO2 DISS (AS N)		0.18	MG/L		
	04/17/2012 12:00 AM	PHOSPHORUS TOTAL		0.028	MG/L		
	04/17/2012 12:00 AM	PHOSPHATE ORTHO DISS		0.014	MG/L		
	04/17/2012 12:00 AM	CHLORIDE		4.8	MG/L		
	04/17/2012 12:00 AM	SECCHI DEPTH - FEET		7	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/31/2011 12:00 PM	TEMPERATURE FIELD		43.1	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/31/2011 12:00 PM	TEMPERATURE FIELD		43.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/31/2011 12:00 PM	TEMPERATURE FIELD		43.3	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/31/2011 12:00 PM	TEMPERATURE FIELD		43.1	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/31/2011 12:00 PM	TEMPERATURE FIELD		42.4	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/31/2011 12:00 PM	TEMPERATURE FIELD		42.9	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/31/2011 12:00 PM	TEMPERATURE FIELD		42.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/31/2011 12:00 PM	TEMPERATURE FIELD		42.4	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/31/2011 12:00 PM	SECCHI DEPTH - FEET		12	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/31/2011 12:00 PM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole	10/31/2011 12:00 PM	WATER COLOR (VISUAL)		BROWN			

Near Dam				
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/31/2011 12:00 PM	USER PERCEPTION OF WATER QUALITY	1-Beautiful, could not be nicer	
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/31/2011 12:00 PM	WATER LEVEL (STAFF GAUGE)	1035	FEET

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

Previous 326-350 of 1793 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/31/2011 12:00 PM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
	10/31/2011 12:00 AM	TEMPERATURE FIELD		44.4	F		
	10/31/2011 12:00 AM	CONDUCTIVITY, UMHOS/CM @ 25C		149	US/CM@25°C		
	10/31/2011 12:00 AM	NITROGEN NH3-N DISS		0.03	MG/L		
	10/31/2011 12:00 AM	NITROGEN KJELDAHL TOTAL		0.24	MG/L		
	10/31/2011 12:00 AM	NITROGEN NO3+NO2 DISS (AS N)		<0.1	MG/L		
	10/31/2011 12:00 AM	PHOSPHORUS TOTAL		0.019	MG/L		
	10/31/2011 12:00 AM	PHOSPHATE ORTHO DISS		0.012	MG/L		
	10/31/2011 12:00 AM	CHLORIDE		5.0	MG/L		
	10/31/2011 12:00 AM	SECCHI DEPTH - FEET		12	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/11/2011 03:00 PM	TEMPERATURE FIELD		63.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/11/2011 03:00 PM	TEMPERATURE FIELD		62.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/11/2011 03:00 PM	TEMPERATURE FIELD		62.4	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/11/2011 03:00 PM	TEMPERATURE FIELD		62	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/11/2011 03:00 PM	TEMPERATURE FIELD		62.9	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/11/2011 03:00 PM	TEMPERATURE FIELD		58.4	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/11/2011 03:00 PM	TEMPERATURE FIELD		56.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/11/2011 03:00 PM	TEMPERATURE FIELD		59.3	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/11/2011 03:00 PM	SECCHI DEPTH - FEET		8.5	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/11/2011 03:00 PM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/11/2011 03:00 PM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/11/2011 03:00 PM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole	10/11/2011 03:00 PM	WATER LEVEL (STAFF GAUGE)		1035	FEET		

Near Dam				
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/11/2011 03:00 PM	SECCHI DEPTH HIT BOTTOM	NO	Y/N
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/30/2011 04:00 PM	TEMPERATURE FIELD	56.1	DEGREES F

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

Previous 351-375 of 1793 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/30/2011 04:00 PM	TEMPERATURE FIELD		56.1	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/30/2011 04:00 PM	TEMPERATURE FIELD		56.4	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/30/2011 04:00 PM	TEMPERATURE FIELD		56.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/30/2011 04:00 PM	TEMPERATURE FIELD		55.2	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/30/2011 04:00 PM	TEMPERATURE FIELD		56.3	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/30/2011 04:00 PM	TEMPERATURE FIELD		55.9	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/30/2011 04:00 PM	TEMPERATURE FIELD		55.7	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/30/2011 04:00 PM	SECCHI DEPTH - FEET		9.0	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/30/2011 04:00 PM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/30/2011 04:00 PM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/30/2011 04:00 PM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/30/2011 04:00 PM	WATER LEVEL (STAFF GAUGE)		1034.25	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/30/2011 04:00 PM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/30/2011 12:00 PM	TEMPERATURE FIELD		72.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/30/2011 12:00 PM	TEMPERATURE FIELD		70.1	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/30/2011 12:00 PM	TEMPERATURE FIELD		69.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/30/2011 12:00 PM	TEMPERATURE FIELD		69.2	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/30/2011 12:00 PM	TEMPERATURE FIELD		72.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/30/2011 12:00 PM	TEMPERATURE FIELD		68.3	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/30/2011 12:00 PM	TEMPERATURE FIELD		68.9	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/30/2011 12:00 PM	TEMPERATURE FIELD		68.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/30/2011 12:00 PM	TEMPERATURE AT LAB		ICED	C		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/30/2011 12:00 PM	PHOSPHORUS TOTAL		*0.036	MG/L		LAB REAGENT BLANK OF 0.0069 EXCEEDES LOD CRITERIA
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/30/2011 12:00 PM	SAMPLE SIZE LITERS		200	ML		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/30/2011 12:00 PM	SECCHI DEPTH - FEET		5.0	FEET		

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

Previous 376-400 of 1793 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/30/2011 12:00 PM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/30/2011 12:00 PM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/30/2011 12:00 PM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/30/2011 12:00 PM	WATER LEVEL (STAFF GAUGE)		1035	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/30/2011 12:00 PM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/30/2011 12:00 PM	CHLOROPHYLL A, FLUORESCENCE (WELSCHMAYER 1994)		7.85	UG/L		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/26/2011 11:00 AM	TEMPERATURE FIELD		72.1	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/26/2011 11:00 AM	TEMPERATURE FIELD		79	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/26/2011 11:00 AM	TEMPERATURE FIELD		71	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/26/2011 11:00 AM	TEMPERATURE FIELD		71.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/26/2011 11:00 AM	TEMPERATURE FIELD		77.3	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/26/2011 11:00 AM	TEMPERATURE FIELD		72.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/26/2011 11:00 AM	TEMPERATURE FIELD		73.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/26/2011 11:00 AM	TEMPERATURE FIELD		75	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/26/2011 11:00 AM	TEMPERATURE AT LAB		ICED	C		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/26/2011 11:00 AM	PHOSPHORUS TOTAL		0.038	MG/L		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/26/2011 11:00 AM	SAMPLE SIZE LITERS		200	ML		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/26/2011 11:00 AM	SECCHI DEPTH - FEET		5.0	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/26/2011 11:00 AM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/26/2011 11:00 AM	WATER COLOR (VISUAL)		BROWN			

Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/26/2011 11:00 AM	USER PERCEPTION OF WATER QUALITY	1-Beautiful, could not be nicer	
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/26/2011 11:00 AM	WATER LEVEL (STAFF GAUGE)	1035	FEET
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/26/2011 11:00 AM	SECCHI DEPTH HIT BOTTOM	NO	Y/N
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/26/2011 11:00 AM	CHLOROPHYLL A, FLUORESCENCE (WELSCHMAYER 1994)	13.3	UG/L
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/13/2011 03:00 PM	TEMPERATURE FIELD	75.2	DEGREES F

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

Previous 401-425 of 1793 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/13/2011 03:00 PM	TEMPERATURE FIELD		79	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/13/2011 03:00 PM	TEMPERATURE FIELD		77.3	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/13/2011 03:00 PM	TEMPERATURE FIELD		77	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/13/2011 03:00 PM	TEMPERATURE FIELD		76.4	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/13/2011 03:00 PM	TEMPERATURE FIELD		75.2	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/13/2011 03:00 PM	TEMPERATURE FIELD		63.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/13/2011 03:00 PM	TEMPERATURE FIELD		66.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/13/2011 03:00 PM	SECCHI DEPTH - FEET		6.0	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/13/2011 03:00 PM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/13/2011 03:00 PM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/13/2011 03:00 PM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/13/2011 03:00 PM	WATER LEVEL (STAFF GAUGE)		1035	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/13/2011 03:00 PM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/28/2011 12:00 PM	TEMPERATURE FIELD		69	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/28/2011 12:00 PM	TEMPERATURE FIELD		68.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/28/2011 12:00 PM	TEMPERATURE FIELD		68.3	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/28/2011 12:00 PM	TEMPERATURE FIELD		68	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/28/2011 12:00 PM	TEMPERATURE FIELD		70.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/28/2011 12:00 PM	TEMPERATURE FIELD		61.1	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/28/2011 12:00 PM	TEMPERATURE FIELD		63.8	DEGREES F		

Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/28/2011 12:00 PM	TEMPERATURE FIELD	62	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/28/2011 12:00 PM	TEMPERATURE AT LAB	ICED	C
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/28/2011 12:00 PM	PHOSPHORUS TOTAL	0.035	MG/L
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/28/2011 12:00 PM	SAMPLE SIZE LITERS	200	ML
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/28/2011 12:00 PM	SECCHI DEPTH - FEET	5.0	FEET

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

Previous 426-450 of 1793 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/28/2011 12:00 PM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/28/2011 12:00 PM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/28/2011 12:00 PM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/28/2011 12:00 PM	WATER LEVEL (STAFF GAUGE)		1035	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/28/2011 12:00 PM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/28/2011 12:00 PM	CHLOROPHYLL A, FLUORESCENCE (WELSCHMAYER 1994)		8.14	UG/L		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/27/2011 03:00 PM	TEMPERATURE FIELD		63.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/27/2011 03:00 PM	TEMPERATURE FIELD		64.9	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/27/2011 03:00 PM	TEMPERATURE FIELD		63.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/27/2011 03:00 PM	TEMPERATURE FIELD		63.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/27/2011 03:00 PM	TEMPERATURE FIELD		63.3	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/27/2011 03:00 PM	TEMPERATURE FIELD		61.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/27/2011 03:00 PM	TEMPERATURE FIELD		62	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/27/2011 03:00 PM	TEMPERATURE FIELD		61.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/27/2011 03:00 PM	SECCHI DEPTH - FEET		4.0	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/27/2011 03:00 PM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/27/2011 03:00 PM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/27/2011 03:00 PM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/27/2011 03:00 PM	WATER LEVEL (STAFF GAUGE)		1035	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/27/2011 03:00 PM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		

Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/03/2011 01:00 PM	TEMPERATURE FIELD	46	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/03/2011 01:00 PM	TEMPERATURE FIELD	43.7	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/03/2011 01:00 PM	TEMPERATURE FIELD	43.8	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/03/2011 01:00 PM	TEMPERATURE FIELD	42.8	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/03/2011 01:00 PM	TEMPERATURE FIELD	42.8	DEGREES F

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

Previous 451-475 of 1793 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/03/2011 01:00 PM	TEMPERATURE FIELD		43.3	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/03/2011 01:00 PM	TEMPERATURE FIELD		43.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/03/2011 01:00 PM	TEMPERATURE FIELD		44.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/03/2011 01:00 PM	TEMPERATURE AT LAB		ICED	C		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/03/2011 01:00 PM	PHOSPHORUS TOTAL		0.025	MG/L		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/03/2011 01:00 PM	SECCHI DEPTH - FEET		5.0	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/03/2011 01:00 PM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/03/2011 01:00 PM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/03/2011 01:00 PM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/03/2011 01:00 PM	WATER LEVEL (STAFF GAUGE)		1035	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/03/2011 01:00 PM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
	05/03/2011 12:00 AM	TEMPERATURE FIELD		47	F		
	05/03/2011 12:00 AM	CONDUCTIVITY, UMHOS/CM @ 25C		112	US/CM@25°C		
	05/03/2011 12:00 AM	NITROGEN NH3-N DISS		0.09	MG/L		
	05/03/2011 12:00 AM	NITROGEN KJELDAHL TOTAL		0.540	MG/L		
	05/03/2011 12:00 AM	NITROGEN NO3+NO2 DISS (AS N)		0.14	MG/L		
	05/03/2011 12:00 AM	PHOSPHORUS TOTAL		0.026	MG/L		
	05/03/2011 12:00 AM	PHOSPHATE ORTHO DISS		0.010	MG/L		
	05/03/2011 12:00 AM	CHLORIDE		3.2	MG/L		
	05/03/2011 12:00 AM	SECCHI DEPTH - FEET		5	FEET		
	11/03/2010 12:00 AM	CONDUCTIVITY, UMHOS/CM @ 25C		90	US/CM@25°C		
	11/03/2010 12:00 AM	NITROGEN NH3-N DISS		0.05	MG/L		
	11/03/2010 12:00 AM	NITROGEN KJELDAHL TOTAL		0.78	MG/L		
	11/03/2010 12:00 AM	NITROGEN NO3+NO2 DISS (AS N)		0.15	MG/L		

11/03/2010 12:00 AM	PHOSPHORUS TOTAL	0.030	MG/L

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

Previous 476-500 of 1793 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
	11/03/2010 12:00 AM	PHOSPHATE ORTHO DISS		0.019	MG/L		
	11/03/2010 12:00 AM	CHLORIDE		3.7	MG/L		
	11/03/2010 12:00 AM	SECCHI DEPTH - FEET		3.25	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/02/2010 12:00 PM	SECCHI DEPTH - FEET		3.25	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/02/2010 12:00 PM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/02/2010 12:00 PM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/02/2010 12:00 PM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/02/2010 12:00 PM	WATER LEVEL (VISUAL)		NORMAL			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/02/2010 12:00 PM	WATER LEVEL (STAFF GAUGE)		1035	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/02/2010 12:00 PM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/07/2010 12:00 PM	TEMPERATURE FIELD		51.2	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/07/2010 12:00 PM	TEMPERATURE FIELD		51.4	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/07/2010 12:00 PM	TEMPERATURE FIELD		51.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/07/2010 12:00 PM	TEMPERATURE FIELD		51.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/07/2010 12:00 PM	TEMPERATURE FIELD		51	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/07/2010 12:00 PM	TEMPERATURE FIELD		55.7	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/07/2010 12:00 PM	TEMPERATURE FIELD		52.1	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/07/2010 12:00 PM	TEMPERATURE FIELD		51	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/07/2010 12:00 PM	SECCHI DEPTH - FEET		4.25	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/07/2010 12:00 PM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/07/2010 12:00 PM	WATER COLOR (VISUAL)		BROWN			

Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/07/2010 12:00 PM	USER PERCEPTION OF WATER QUALITY	1-Beautiful, could not be nicer	
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/07/2010 12:00 PM	WATER LEVEL (STAFF GAUGE)	1035	FEET
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/07/2010 12:00 PM	SECCHI DEPTH HIT BOTTOM	NO	Y/N
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/14/2010 02:00 PM	TEMPERATURE AT LAB	ICED	C

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/14/2010 02:00 PM	PHOSPHORUS TOTAL		0.032	MG/L		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/14/2010 02:00 PM	SAMPLE SIZE LITERS		200	ML		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/14/2010 02:00 PM	CHLOROPHYLL A, FLUORESCENCE (WELSCHMAYER 1994)		36.3	UG/L		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/14/2010 01:00 PM	TEMPERATURE FIELD		61.1	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/14/2010 01:00 PM	TEMPERATURE FIELD		60.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/14/2010 01:00 PM	TEMPERATURE FIELD		60.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/14/2010 01:00 PM	TEMPERATURE FIELD		61.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/14/2010 01:00 PM	TEMPERATURE FIELD		62	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/14/2010 01:00 PM	TEMPERATURE FIELD		62.9	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/14/2010 01:00 PM	TEMPERATURE FIELD		64	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/14/2010 01:00 PM	TEMPERATURE FIELD		62.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/14/2010 01:00 PM	SECCHI DEPTH - FEET		4.25	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/14/2010 01:00 PM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/14/2010 01:00 PM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/14/2010 01:00 PM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/14/2010 01:00 PM	WATER LEVEL (STAFF GAUGE)		1034.75	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/14/2010 01:00 PM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/23/2010 02:00 PM	TEMPERATURE FIELD		68.7	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/23/2010 02:00 PM	TEMPERATURE FIELD		69.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/23/2010 02:00 PM	TEMPERATURE FIELD		70.8	DEGREES F		

Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/23/2010 02:00 PM	TEMPERATURE FIELD	70.3	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/23/2010 02:00 PM	TEMPERATURE FIELD	72	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/23/2010 02:00 PM	TEMPERATURE FIELD	77	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/23/2010 02:00 PM	TEMPERATURE FIELD	74.1	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/23/2010 02:00 PM	TEMPERATURE FIELD	76.2	DEGREES F

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

Previous 526-550 of 1793 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/23/2010 02:00 PM	SECCHI DEPTH - FEET		5.0	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/23/2010 02:00 PM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/23/2010 02:00 PM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/23/2010 02:00 PM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/23/2010 02:00 PM	WATER LEVEL (STAFF GAUGE)		1035	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/23/2010 02:00 PM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/28/2010 10:00 AM	TEMPERATURE FIELD		75.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/28/2010 10:00 AM	TEMPERATURE FIELD		63.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/28/2010 10:00 AM	TEMPERATURE FIELD		72.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/28/2010 10:00 AM	TEMPERATURE FIELD		74.1	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/28/2010 10:00 AM	TEMPERATURE FIELD		74.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/28/2010 10:00 AM	TEMPERATURE FIELD		76.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/28/2010 10:00 AM	TEMPERATURE FIELD		77.1	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/28/2010 10:00 AM	TEMPERATURE FIELD		77.9	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/28/2010 10:00 AM	TEMPERATURE AT LAB		ICED	C		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/28/2010 10:00 AM	PHOSPHORUS TOTAL		0.020	MG/L		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/28/2010 10:00 AM	SAMPLE SIZE LITERS		200	ML		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/28/2010 10:00 AM	SECCHI DEPTH - FEET		12	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/28/2010 10:00 AM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/28/2010 10:00 AM	WATER COLOR (VISUAL)		BROWN			

Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/28/2010 10:00 AM	USER PERCEPTION OF WATER QUALITY	1-Beautiful, could not be nicer	
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/28/2010 10:00 AM	WATER LEVEL (STAFF GAUGE)	1035	FEET
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/28/2010 10:00 AM	SECCHI DEPTH HIT BOTTOM	NO	Y/N
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/28/2010 10:00 AM	CHLOROPHYLL A, FLUORESCENCE (WELSCHMAYER 1994)	4.34	UG/L
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/29/2010 02:00 PM	TEMPERATURE FIELD	73.9	DEGREES F

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

Previous 551-575 of 1793 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/29/2010 02:00 PM	TEMPERATURE FIELD		73	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/29/2010 02:00 PM	TEMPERATURE FIELD		72.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/29/2010 02:00 PM	TEMPERATURE FIELD		72.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/29/2010 02:00 PM	TEMPERATURE FIELD		72.1	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/29/2010 02:00 PM	TEMPERATURE FIELD		71.2	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/29/2010 02:00 PM	TEMPERATURE FIELD		68	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/29/2010 02:00 PM	TEMPERATURE FIELD		62	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/29/2010 02:00 PM	SECCHI DEPTH - FEET		5.5	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/29/2010 02:00 PM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/29/2010 02:00 PM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/29/2010 02:00 PM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/29/2010 02:00 PM	WATER LEVEL (STAFF GAUGE)		1035	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/21/2010 11:00 AM	TEMPERATURE FIELD		75	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/21/2010 11:00 AM	TEMPERATURE FIELD		60.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/21/2010 11:00 AM	TEMPERATURE FIELD		63.1	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/21/2010 11:00 AM	TEMPERATURE FIELD		65.1	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/21/2010 11:00 AM	TEMPERATURE FIELD		68	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/21/2010 11:00 AM	TEMPERATURE FIELD		71.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/21/2010 11:00 AM	TEMPERATURE FIELD		74.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/21/2010 11:00 AM	TEMPERATURE FIELD		70.1	DEGREES F		

Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/21/2010 11:00 AM	TEMPERATURE AT LAB	ICED	C
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/21/2010 11:00 AM	PHOSPHORUS TOTAL	0.042	MG/L
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/21/2010 11:00 AM	SAMPLE SIZE LITERS	200	ML
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/21/2010 11:00 AM	SECCHI DEPTH - FEET	4.0	FEET
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/21/2010 11:00 AM	WATER COLUMN APPEARANCE	CLEAR	

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

Previous 576-600 of 1793 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/21/2010 11:00 AM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/21/2010 11:00 AM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/21/2010 11:00 AM	WATER LEVEL (STAFF GAUGE)		1035	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/21/2010 11:00 AM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/21/2010 11:00 AM	CHLOROPHYLL A, FLUORESCENCE (WELSCHMAYER 1994)		17.2	UG/L		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/19/2010 12:00 PM	TEMPERATURE FIELD		52.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/19/2010 12:00 PM	TEMPERATURE FIELD		51.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/19/2010 12:00 PM	TEMPERATURE FIELD		60.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/19/2010 12:00 PM	TEMPERATURE FIELD		68	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/19/2010 12:00 PM	TEMPERATURE FIELD		56.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/19/2010 12:00 PM	TEMPERATURE FIELD		66	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/19/2010 12:00 PM	TEMPERATURE FIELD		53.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/19/2010 12:00 PM	TEMPERATURE FIELD		64.2	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/19/2010 12:00 PM	SECCHI DEPTH - FEET		5.5	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/19/2010 12:00 PM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/19/2010 12:00 PM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/19/2010 12:00 PM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/19/2010 12:00 PM	WATER LEVEL (STAFF GAUGE)		1035	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/19/2010 12:00 PM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/27/2010 01:00 PM	TEMPERATURE FIELD		55.9	DEGREES F		

Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/27/2010 01:00 PM	TEMPERATURE FIELD	57.5	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/27/2010 01:00 PM	TEMPERATURE FIELD	56.4	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/27/2010 01:00 PM	TEMPERATURE FIELD	55.7	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/27/2010 01:00 PM	TEMPERATURE FIELD	55.5	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/27/2010 01:00 PM	TEMPERATURE FIELD	55.2	DEGREES F

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

Previous 601-625 of 1793 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/27/2010 01:00 PM	TEMPERATURE FIELD		57.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/27/2010 01:00 PM	TEMPERATURE FIELD		55.7	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/27/2010 01:00 PM	TEMPERATURE AT LAB		ICED	C		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/27/2010 01:00 PM	PHOSPHORUS TOTAL		0.022	MG/L		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/27/2010 01:00 PM	SECCHI DEPTH - FEET		6.0	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/27/2010 01:00 PM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/27/2010 01:00 PM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/27/2010 01:00 PM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/27/2010 01:00 PM	WATER LEVEL (STAFF GAUGE)		1035	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/27/2010 01:00 PM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
	04/12/2010 12:00 AM	TEMPERATURE FIELD		54	F		
	04/12/2010 12:00 AM	CONDUCTIVITY, UMHOS/CM @ 25C		164	US/CM@25°C		
	04/12/2010 12:00 AM	NITROGEN NH3-N DISS		.02	MG/L		
	04/12/2010 12:00 AM	NITROGEN KJELDAHL TOTAL		.32	MG/L		
	04/12/2010 12:00 AM	NITROGEN NO3+NO2 DISS (AS N)		.09	MG/L		
	04/12/2010 12:00 AM	PHOSPHORUS TOTAL		.023	MG/L		
	04/12/2010 12:00 AM	PHOSPHATE ORTHO DISS		.013	MG/L		
	04/12/2010 12:00 AM	CHLORIDE		4.1	MG/L		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/03/2009 02:00 PM	TEMPERATURE FIELD		43.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/03/2009 02:00 PM	TEMPERATURE FIELD		44.4	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/03/2009 02:00 PM	TEMPERATURE FIELD		43.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/03/2009 02:00 PM	TEMPERATURE FIELD		43.5	DEGREES F		
Citizen Lake Monitoring - Water	11/03/2009	TEMPERATURE FIELD		43.7	DEGREES F		

Quality - Trego Lake; Deep Hole Near Dam	02:00 PM			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/03/2009 02:00 PM	TEMPERATURE FIELD	43.5	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/03/2009 02:00 PM	TEMPERATURE FIELD	43.8	DEGREES F

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/03/2009 02:00 PM	TEMPERATURE FIELD		44.2	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/03/2009 02:00 PM	SECCHI DEPTH - FEET		9.25	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/03/2009 02:00 PM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/03/2009 02:00 PM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/03/2009 02:00 PM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/03/2009 02:00 PM	WATER LEVEL (VISUAL)		NORMAL			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/03/2009 02:00 PM	WATER LEVEL (STAFF GAUGE)		1035	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/03/2009 02:00 PM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
	11/03/2009 12:00 AM	TEMPERATURE FIELD		44.4	F		
	11/03/2009 12:00 AM	CONDUCTIVITY, UMHOS/CM @ 25C		141	US/CM@25°C		
	11/03/2009 12:00 AM	NITROGEN NH3-N DISS		0.02	MG/L		
	11/03/2009 12:00 AM	NITROGEN KJELDAHL TOTAL		0.39	MG/L		
	11/03/2009 12:00 AM	NITROGEN NO3+NO2 DISS (AS N)		0.20	MG/L		
	11/03/2009 12:00 AM	PHOSPHORUS TOTAL		0.026	MG/L		
	11/03/2009 12:00 AM	PHOSPHATE ORTHO DISS		0.030	MG/L		
	11/03/2009 12:00 AM	CHLORIDE		3.7	MG/L		
	11/03/2009 12:00 AM	SECCHI DEPTH - FEET		9.25	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/20/2009 03:00 PM	TEMPERATURE FIELD		72.2	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/20/2009 03:00 PM	TEMPERATURE FIELD		64.4	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/20/2009 03:00 PM	TEMPERATURE FIELD		67.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/20/2009 03:00 PM	TEMPERATURE FIELD		68.7	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/20/2009 03:00 PM	TEMPERATURE FIELD		70.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole	09/20/2009 03:00 PM	TEMPERATURE FIELD		70.8	DEGREES F		

Near Dam				
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/20/2009 03:00 PM	TEMPERATURE FIELD	71.4	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/20/2009 03:00 PM	TEMPERATURE FIELD	62.6	DEGREES F

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

Previous 651-675 of 1793 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/20/2009 03:00 PM	SECCHI DEPTH - FEET		12.50	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/20/2009 03:00 PM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/20/2009 03:00 PM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/20/2009 03:00 PM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/20/2009 03:00 PM	WATER LEVEL (VISUAL)		NORMAL			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/20/2009 03:00 PM	WATER LEVEL (STAFF GAUGE)		1034.5	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/20/2009 03:00 PM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/24/2009 12:00 AM	TEMPERATURE FIELD		66	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/24/2009 12:00 AM	TEMPERATURE FIELD		71.4	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/24/2009 12:00 AM	TEMPERATURE FIELD		70.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/24/2009 12:00 AM	TEMPERATURE FIELD		63.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/24/2009 12:00 AM	TEMPERATURE FIELD		64.7	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/24/2009 12:00 AM	TEMPERATURE FIELD		65.1	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/24/2009 12:00 AM	TEMPERATURE FIELD		67.4	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/24/2009 12:00 AM	TEMPERATURE FIELD		70.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/24/2009 12:00 AM	TEMPERATURE AT LAB		ICED	C		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/24/2009 12:00 AM	PHOSPHORUS TOTAL		0.023	MG/L		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/24/2009 12:00 AM	SAMPLE SIZE LITERS		200	ML		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/24/2009 12:00 AM	SECCHI DEPTH - FEET		9.75	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/24/2009 12:00 AM	WATER COLUMN APPEARANCE		CLEAR			

Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/24/2009 12:00 AM	WATER COLOR (VISUAL)	BROWN	
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/24/2009 12:00 AM	USER PERCEPTION OF WATER QUALITY	1-Beautiful, could not be nicer	
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/24/2009 12:00 AM	WATER LEVEL (VISUAL)	NORMAL	
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/24/2009 12:00 AM	WATER LEVEL (STAFF GAUGE)	1035	FEET
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/24/2009 12:00 AM	SECCHI DEPTH HIT BOTTOM	NO	Y/N

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

Previous 676-700 of 1793 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/24/2009 12:00 AM	CHLOROPHYLL A, FLUORESCENCE (WELSCHMAYER 1994)		5.47	UG/L		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/15/2009 11:00 AM	TEMPERATURE FIELD		75	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/15/2009 11:00 AM	TEMPERATURE FIELD		69	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/15/2009 11:00 AM	TEMPERATURE FIELD		63.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/15/2009 11:00 AM	TEMPERATURE FIELD		60.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/15/2009 11:00 AM	TEMPERATURE FIELD		76.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/15/2009 11:00 AM	TEMPERATURE FIELD		77	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/15/2009 11:00 AM	TEMPERATURE FIELD		70.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/15/2009 11:00 AM	TEMPERATURE FIELD		76.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/15/2009 11:00 AM	SECCHI DEPTH - FEET		9.0	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/15/2009 11:00 AM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/15/2009 11:00 AM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/15/2009 11:00 AM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/15/2009 11:00 AM	WATER LEVEL (VISUAL)		NORMAL			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/15/2009 11:00 AM	WATER LEVEL (STAFF GAUGE)		1035	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/15/2009 11:00 AM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/13/2009 12:00 PM	TEMPERATURE FIELD		74.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/13/2009 12:00 PM	TEMPERATURE FIELD		73.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/13/2009 12:00 PM	TEMPERATURE FIELD		72.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/13/2009 12:00 PM	TEMPERATURE FIELD		72.6	DEGREES F		

Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/13/2009 12:00 PM	TEMPERATURE FIELD	72.3	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/13/2009 12:00 PM	TEMPERATURE FIELD	64.4	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/13/2009 12:00 PM	TEMPERATURE FIELD	60.6	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/13/2009 12:00 PM	TEMPERATURE FIELD	57.2	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/13/2009 12:00 PM	TEMPERATURE AT LAB	ICED	C

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

Previous 701-725 of 1793 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/13/2009 12:00 PM	PHOSPHORUS TOTAL		0.029	MG/L		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/13/2009 12:00 PM	SAMPLE SIZE LITERS		200	ML		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/13/2009 12:00 PM	SECCHI DEPTH - FEET		7.50	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/13/2009 12:00 PM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/13/2009 12:00 PM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/13/2009 12:00 PM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/13/2009 12:00 PM	WATER LEVEL (VISUAL)		NORMAL			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/13/2009 12:00 PM	WATER LEVEL (STAFF GAUGE)		1034.75	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/13/2009 12:00 PM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/13/2009 12:00 PM	CHLOROPHYLL A, FLUORESCENCE (WELSCHMAYER 1994)		7.85	UG/L		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/03/2009 10:00 AM	TEMPERATURE FIELD		57	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/03/2009 10:00 AM	TEMPERATURE FIELD		62	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/03/2009 10:00 AM	TEMPERATURE FIELD		63.3	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/03/2009 10:00 AM	TEMPERATURE FIELD		64.4	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/03/2009 10:00 AM	TEMPERATURE FIELD		66.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/03/2009 10:00 AM	TEMPERATURE FIELD		69.2	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/03/2009 10:00 AM	TEMPERATURE FIELD		71	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/03/2009 10:00 AM	TEMPERATURE FIELD		62.4	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/03/2009 10:00 AM	SECCHI DEPTH - FEET		6.0	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/03/2009 10:00 AM	WATER COLUMN APPEARANCE		CLEAR			

Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/03/2009 10:00 AM	WATER COLOR (VISUAL)	BROWN	
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/03/2009 10:00 AM	USER PERCEPTION OF WATER QUALITY	1-Beautiful, could not be nicer	
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/03/2009 10:00 AM	WATER LEVEL (VISUAL)	NORMAL	
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/03/2009 10:00 AM	WATER LEVEL (STAFF GAUGE)	1034.75	FEET
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/03/2009 10:00 AM	SECCHI DEPTH HIT BOTTOM	NO	Y/N

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

Previous 726-750 of 1793 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/15/2009 12:00 PM	TEMPERATURE FIELD		65.1	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/15/2009 12:00 PM	TEMPERATURE FIELD		71.9	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/15/2009 12:00 PM	TEMPERATURE FIELD		71.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/15/2009 12:00 PM	TEMPERATURE FIELD		68	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/15/2009 12:00 PM	TEMPERATURE FIELD		61.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/15/2009 12:00 PM	TEMPERATURE FIELD		55.9	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/15/2009 12:00 PM	TEMPERATURE FIELD		58.2	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/15/2009 12:00 PM	TEMPERATURE FIELD		56.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/15/2009 12:00 PM	TEMPERATURE AT LAB		ICED	C		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/15/2009 12:00 PM	PHOSPHORUS TOTAL		0.025	MG/L		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/15/2009 12:00 PM	SAMPLE SIZE LITERS		200	ML		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/15/2009 12:00 PM	SECCHI DEPTH - FEET		6.0	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/15/2009 12:00 PM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/15/2009 12:00 PM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/15/2009 12:00 PM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/15/2009 12:00 PM	WATER LEVEL (VISUAL)		NORMAL			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/15/2009 12:00 PM	WATER LEVEL (STAFF GAUGE)		1035	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/15/2009 12:00 PM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/15/2009 12:00 PM	CHLOROPHYLL A, FLUORESCENCE (WELSCHMAYER 1994)		10.2	UG/L		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/22/2009 04:00 PM	TEMPERATURE FIELD		66.4	DEGREES F		

Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/22/2009 04:00 PM	TEMPERATURE FIELD	59.7	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/22/2009 04:00 PM	TEMPERATURE FIELD	60.4	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/22/2009 04:00 PM	TEMPERATURE FIELD	61.1	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/22/2009 04:00 PM	TEMPERATURE FIELD	62	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/22/2009 04:00 PM	TEMPERATURE FIELD	64.2	DEGREES F

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

Previous 751-775 of 1793 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/22/2009 04:00 PM	TEMPERATURE FIELD		62	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/22/2009 04:00 PM	TEMPERATURE FIELD		64.2	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/22/2009 04:00 PM	SECCHI DEPTH - FEET		6.75	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/22/2009 04:00 PM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/22/2009 04:00 PM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/22/2009 04:00 PM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/22/2009 04:00 PM	WATER LEVEL (VISUAL)		NORMAL			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/22/2009 04:00 PM	WATER LEVEL (STAFF GAUGE)		1035	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/22/2009 04:00 PM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/28/2009 01:00 PM	TEMPERATURE FIELD		53.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/28/2009 01:00 PM	TEMPERATURE FIELD		55.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/28/2009 01:00 PM	TEMPERATURE FIELD		55.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/28/2009 01:00 PM	TEMPERATURE FIELD		54.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/28/2009 01:00 PM	TEMPERATURE FIELD		52.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/28/2009 01:00 PM	TEMPERATURE FIELD		52.1	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/28/2009 01:00 PM	TEMPERATURE FIELD		51.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/28/2009 01:00 PM	TEMPERATURE FIELD		49.2	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/28/2009 01:00 PM	TEMPERATURE AT LAB		ICED	C		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/28/2009 01:00 PM	PHOSPHORUS TOTAL		0.025	MG/L		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/28/2009 01:00 PM	SECCHI DEPTH - FEET		5.5	FEET		

Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/28/2009 01:00 PM	WATER COLUMN APPEARANCE	CLEAR	
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/28/2009 01:00 PM	WATER COLOR (VISUAL)	BROWN	
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/28/2009 01:00 PM	USER PERCEPTION OF WATER QUALITY	1-Beautiful, could not be nicer	
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/28/2009 01:00 PM	WATER LEVEL (VISUAL)	NORMAL	
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/28/2009 01:00 PM	WATER LEVEL (STAFF GAUGE)	1035	FEET

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

Previous 776-800 of 1793 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	04/28/2009 01:00 PM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/03/2008 12:00 PM	TEMPERATURE FIELD		41.7	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/03/2008 12:00 PM	TEMPERATURE FIELD		42.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/03/2008 12:00 PM	TEMPERATURE FIELD		44	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/03/2008 12:00 PM	TEMPERATURE FIELD		43.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/03/2008 12:00 PM	TEMPERATURE FIELD		42.9	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/03/2008 12:00 PM	TEMPERATURE FIELD		41.7	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/03/2008 12:00 PM	TEMPERATURE FIELD		42.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/03/2008 12:00 PM	TEMPERATURE FIELD		42.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/03/2008 12:00 PM	SECCHI DEPTH - FEET		10	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/03/2008 12:00 PM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/03/2008 12:00 PM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/03/2008 12:00 PM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/03/2008 12:00 PM	WATER LEVEL (STAFF GAUGE)		1035	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/03/2008 12:00 PM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
	11/03/2008 12:00 AM	SECCHI DEPTH - FEET		10	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/30/2008 03:00 PM	TEMPERATURE FIELD		41.7	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/30/2008 03:00 PM	TEMPERATURE FIELD		43.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/30/2008 03:00 PM	TEMPERATURE FIELD		43.1	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/30/2008 03:00 PM	TEMPERATURE FIELD		42.8	DEGREES F		
Citizen Lake Monitoring - Water	10/30/2008	TEMPERATURE FIELD		42.8	DEGREES		

Quality - Trego Lake; Deep Hole Near Dam	03:00 PM			F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/30/2008 03:00 PM	TEMPERATURE FIELD	42.6	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/30/2008 03:00 PM	TEMPERATURE FIELD	41.1	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/30/2008 03:00 PM	TEMPERATURE FIELD	41.3	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/30/2008 03:00 PM	SECCHI DEPTH - FEET	8	FEET

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/30/2008 03:00 PM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/30/2008 03:00 PM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/30/2008 03:00 PM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/30/2008 03:00 PM	WATER LEVEL (STAFF GAUGE)		1035	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/30/2008 03:00 PM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/30/2008 04:00 PM	TEMPERATURE FIELD		59	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/30/2008 04:00 PM	TEMPERATURE FIELD		59	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/30/2008 04:00 PM	TEMPERATURE FIELD		59.3	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/30/2008 04:00 PM	TEMPERATURE FIELD		60	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/30/2008 04:00 PM	TEMPERATURE FIELD		60.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/30/2008 04:00 PM	TEMPERATURE FIELD		61.1	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/30/2008 04:00 PM	TEMPERATURE FIELD		61.1	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/30/2008 04:00 PM	TEMPERATURE FIELD		61.1	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/30/2008 04:00 PM	SECCHI DEPTH - FEET		7.0	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/30/2008 04:00 PM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/30/2008 04:00 PM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/30/2008 04:00 PM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/30/2008 04:00 PM	WATER LEVEL (STAFF GAUGE)		1035	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/30/2008 04:00 PM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/10/2008 12:00 PM	TEMPERATURE FIELD		59.7	DEGREES F		

Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/10/2008 12:00 PM	TEMPERATURE FIELD	59.9	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/10/2008 12:00 PM	TEMPERATURE FIELD	60.2	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/10/2008 12:00 PM	TEMPERATURE FIELD	64	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/10/2008 12:00 PM	TEMPERATURE FIELD	61.8	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/10/2008 12:00 PM	TEMPERATURE FIELD	64.4	DEGREES F

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/10/2008 12:00 PM	TEMPERATURE FIELD		64.4	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/10/2008 12:00 PM	TEMPERATURE FIELD		64	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/10/2008 12:00 PM	SECCHI DEPTH - FEET		10.75	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/10/2008 12:00 PM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/10/2008 12:00 PM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/10/2008 12:00 PM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/10/2008 12:00 PM	WATER LEVEL (STAFF GAUGE)		1035	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/10/2008 12:00 PM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam, Citizen Lake Monitoring Network QA/QC - 2008	08/26/2008 12:00 PM	TEMPERATURE FIELD		71.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam, Citizen Lake Monitoring Network QA/QC - 2008	08/26/2008 12:00 PM	TEMPERATURE FIELD		71.7	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam, Citizen Lake Monitoring Network QA/QC - 2008	08/26/2008 12:00 PM	TEMPERATURE FIELD		71.9	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam, Citizen Lake Monitoring Network QA/QC - 2008	08/26/2008 12:00 PM	TEMPERATURE FIELD		72.3	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam, Citizen Lake Monitoring Network QA/QC - 2008	08/26/2008 12:00 PM	TEMPERATURE FIELD		69.2	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam, Citizen Lake Monitoring Network QA/QC - 2008	08/26/2008 12:00 PM	TEMPERATURE FIELD		69.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam, Citizen Lake Monitoring Network QA/QC - 2008	08/26/2008 12:00 PM	TEMPERATURE FIELD		68.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam, Citizen Lake Monitoring Network QA/QC - 2008	08/26/2008 12:00 PM	TEMPERATURE FIELD		70.5	DEGREES F		
Citizen Lake Monitoring Network QA/QC - 2008	08/26/2008 12:00 PM	TEMPERATURE AT LAB		ICED	C		
Citizen Lake Monitoring Network QA/QC - 2008	08/26/2008 12:00 PM	TEMPERATURE AT LAB		ICED	C		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam, Citizen Lake Monitoring Network QA/QC - 2008	08/26/2008 12:00 PM	TEMPERATURE AT LAB		ICED	C		
Citizen Lake Monitoring Network QA/QC - 2008	08/26/2008 12:00 PM	PHOSPHORUS TOTAL		ND	MG/L		
Citizen Lake Monitoring Network QA/QC - 2008	08/26/2008 12:00 PM	PHOSPHORUS TOTAL		0.019	MG/L		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam, Citizen Lake Monitoring Network QA/QC - 2008	08/26/2008 12:00 PM	PHOSPHORUS TOTAL		0.022	MG/L		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam, Citizen Lake Monitoring Network QA/QC - 2008	08/26/2008 12:00 PM	SAMPLE SIZE LITERS		200	ML		
Citizen Lake Monitoring Network QA/QC -	08/26/2008	SAMPLE SIZE		200	ML		

2008	12:00 PM	LITERS		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam, Citizen Lake Monitoring Network QA/QC - 2008	08/26/2008 12:00 PM	SECCHI DEPTH - FEET	8.75	FEET

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam, Citizen Lake Monitoring Network QA/QC - 2008	08/26/2008 12:00 PM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam, Citizen Lake Monitoring Network QA/QC - 2008	08/26/2008 12:00 PM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam, Citizen Lake Monitoring Network QA/QC - 2008	08/26/2008 12:00 PM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam, Citizen Lake Monitoring Network QA/QC - 2008	08/26/2008 12:00 PM	WATER LEVEL (STAFF GAUGE)		1035	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam, Citizen Lake Monitoring Network QA/QC - 2008	08/26/2008 12:00 PM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam, Citizen Lake Monitoring Network QA/QC - 2008	08/26/2008 12:00 PM	CHLOROPHYLL A, FLUORESCENCE (WELSCHMAYER 1994)		7.70	UG/L		
Citizen Lake Monitoring Network QA/QC - 2008	08/26/2008 12:00 PM	CHLOROPHYLL A, FLUORESCENCE (WELSCHMAYER 1994)		7.98	UG/L		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/08/2008 12:00 PM	TEMPERATURE FIELD		72.3	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/08/2008 12:00 PM	TEMPERATURE FIELD		74.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/08/2008 12:00 PM	TEMPERATURE FIELD		74.4	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/08/2008 12:00 PM	TEMPERATURE FIELD		73.7	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/08/2008 12:00 PM	TEMPERATURE FIELD		73.2	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/08/2008 12:00 PM	TEMPERATURE FIELD		71.4	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/08/2008 12:00 PM	TEMPERATURE FIELD		76.2	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/08/2008 12:00 PM	TEMPERATURE FIELD		69	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/08/2008 12:00 PM	SECCHI DEPTH - FEET		7.0	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/08/2008 12:00 PM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/08/2008 12:00 PM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/08/2008 12:00 PM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/08/2008 12:00 PM	WATER LEVEL (STAFF GAUGE)		1035	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/08/2008 12:00 PM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/14/2008 12:00 PM	TEMPERATURE FIELD		67.4	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/14/2008 12:00 PM	TEMPERATURE FIELD		70.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/14/2008 12:00 PM	TEMPERATURE FIELD		71	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/14/2008 12:00 PM	TEMPERATURE FIELD		71	DEGREES F		

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

Previous 876-900 of 1793 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/14/2008 12:00 PM	TEMPERATURE FIELD		67.4	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/14/2008 12:00 PM	TEMPERATURE FIELD		73.2	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/14/2008 12:00 PM	TEMPERATURE FIELD		71	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/14/2008 12:00 PM	TEMPERATURE FIELD		71	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/14/2008 12:00 PM	TEMPERATURE AT LAB		ICED	C		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/14/2008 12:00 PM	PHOSPHORUS TOTAL		0.032	MG/L		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/14/2008 12:00 PM	SAMPLE SIZE LITERS		200	ML		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/14/2008 12:00 PM	SECCHI DEPTH - FEET		6.5	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/14/2008 12:00 PM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/14/2008 12:00 PM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/14/2008 12:00 PM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/14/2008 12:00 PM	WATER LEVEL (STAFF GAUGE)		1035.25	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/14/2008 12:00 PM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/14/2008 12:00 PM	CHLOROPHYLL A, FLUORESCENCE (WELSCHMAYER 1994)		4.37	UG/L		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/08/2008 01:00 PM	TEMPERATURE FIELD		73.9	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/08/2008 01:00 PM	TEMPERATURE FIELD		75.3	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/08/2008 01:00 PM	TEMPERATURE FIELD		75	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/08/2008 01:00 PM	TEMPERATURE FIELD		74.4	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/08/2008 01:00 PM	TEMPERATURE FIELD		73.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/08/2008 01:00 PM	TEMPERATURE FIELD		72.3	DEGREES F		

Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/08/2008 01:00 PM	TEMPERATURE FIELD	66.5	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/08/2008 01:00 PM	TEMPERATURE FIELD	70.5	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/08/2008 01:00 PM	SECCHI DEPTH - FEET	5.5	FEET
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/08/2008 01:00 PM	WATER COLUMN APPEARANCE	CLEAR	
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/08/2008 01:00 PM	WATER COLOR (VISUAL)	BROWN	

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

Previous 901-925 of 1793 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/08/2008 01:00 PM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/08/2008 01:00 PM	WATER LEVEL (STAFF GAUGE)		1035.0	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/08/2008 01:00 PM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/24/2008 11:00 AM	TEMPERATURE FIELD		67.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/24/2008 11:00 AM	TEMPERATURE FIELD		68.3	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/24/2008 11:00 AM	TEMPERATURE FIELD		69.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/24/2008 11:00 AM	TEMPERATURE FIELD		74.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/24/2008 11:00 AM	TEMPERATURE FIELD		75.2	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/24/2008 11:00 AM	TEMPERATURE FIELD		64.7	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/24/2008 11:00 AM	TEMPERATURE FIELD		66.2	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/24/2008 11:00 AM	TEMPERATURE FIELD		67.4	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/24/2008 11:00 AM	TEMPERATURE AT LAB		ICED	C		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/24/2008 11:00 AM	PHOSPHORUS TOTAL		0.044	MG/L		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/24/2008 11:00 AM	SAMPLE SIZE LITERS		200	ML		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/24/2008 11:00 AM	SECCHI DEPTH - FEET		5.0	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/24/2008 11:00 AM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/24/2008 11:00 AM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/24/2008 11:00 AM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/24/2008 11:00 AM	WATER LEVEL (STAFF GAUGE)		1035	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/24/2008 11:00 AM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		

Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/24/2008 11:00 AM	CHLOROPHYLL A, FLUORESCENCE (WELSCHMAYER 1994)	25.7	UG/L
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/22/2008 02:00 PM	TEMPERATURE FIELD	58.4	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/22/2008 02:00 PM	TEMPERATURE FIELD	60.4	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/22/2008 02:00 PM	TEMPERATURE FIELD	57.5	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/22/2008 02:00 PM	TEMPERATURE FIELD	57.2	DEGREES F

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

Previous 926-950 of 1793 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/22/2008 02:00 PM	TEMPERATURE FIELD		56.1	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/22/2008 02:00 PM	TEMPERATURE FIELD		55.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/22/2008 02:00 PM	TEMPERATURE FIELD		55.2	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/22/2008 02:00 PM	TEMPERATURE FIELD		54.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/22/2008 02:00 PM	SECCHI DEPTH - FEET		4.75	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/22/2008 02:00 PM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/22/2008 02:00 PM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/22/2008 02:00 PM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/22/2008 02:00 PM	WATER LEVEL (STAFF GAUGE)		1035	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/22/2008 02:00 PM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/05/2008 12:00 PM	TEMPERATURE FIELD		52.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/05/2008 12:00 PM	TEMPERATURE FIELD		51.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/05/2008 12:00 PM	TEMPERATURE FIELD		50.7	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/05/2008 12:00 PM	TEMPERATURE FIELD		50.3	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/05/2008 12:00 PM	TEMPERATURE FIELD		49.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/05/2008 12:00 PM	TEMPERATURE FIELD		49.2	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/05/2008 12:00 PM	TEMPERATURE FIELD		49.4	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/05/2008 12:00 PM	TEMPERATURE FIELD		48.7	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/05/2008 12:00 PM	TEMPERATURE AT LAB		ICED	C		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/05/2008 12:00 PM	PHOSPHORUS TOTAL		0.034	MG/L		

Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/05/2008 12:00 PM	SECCHI DEPTH - FEET	5.5	FEET
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/05/2008 12:00 PM	WATER COLUMN APPEARANCE	CLEAR	
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/05/2008 12:00 PM	WATER COLOR (VISUAL)	BROWN	
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/05/2008 12:00 PM	USER PERCEPTION OF WATER QUALITY	1-Beautiful, could not be nicer	
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/05/2008 12:00 PM	WATER LEVEL (STAFF GAUGE)	1035	FEET

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

Previous 951-975 of 1793 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/05/2008 12:00 PM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
	05/05/2008 12:00 AM	SECCHI DEPTH - FEET		5.5	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/12/2007 04:00 PM	TEMPERATURE FIELD		37.7	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/12/2007 04:00 PM	TEMPERATURE FIELD		38.1	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/12/2007 04:00 PM	TEMPERATURE FIELD		37.7	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/12/2007 04:00 PM	TEMPERATURE FIELD		37.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/12/2007 04:00 PM	TEMPERATURE FIELD		37.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/12/2007 04:00 PM	TEMPERATURE FIELD		37.7	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/12/2007 04:00 PM	TEMPERATURE FIELD		38.1	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/12/2007 04:00 PM	TEMPERATURE FIELD		37.9	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/12/2007 04:00 PM	SECCHI DEPTH - FEET		8.25	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/12/2007 04:00 PM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/12/2007 04:00 PM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/12/2007 04:00 PM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/12/2007 04:00 PM	WATER LEVEL (STAFF GAUGE)		1035.0	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	11/12/2007 04:00 PM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/29/2007 03:00 PM	TEMPERATURE FIELD		44	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/29/2007 03:00 PM	TEMPERATURE FIELD		44	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/29/2007 03:00 PM	TEMPERATURE FIELD		44	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/29/2007 03:00 PM	TEMPERATURE FIELD		44.2	DEGREES F		
Citizen Lake Monitoring - Water	10/29/2007	TEMPERATURE FIELD		44.4	DEGREES		

Quality - Trego Lake; Deep Hole Near Dam	03:00 PM			F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/29/2007 03:00 PM	TEMPERATURE FIELD	44.9	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/29/2007 03:00 PM	TEMPERATURE FIELD	46.7	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/29/2007 03:00 PM	TEMPERATURE FIELD	48	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/29/2007 03:00 PM	SECCHI DEPTH - FEET	6.0	FEET

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

Previous 976-1000 of 1793 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/29/2007 03:00 PM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/29/2007 03:00 PM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/29/2007 03:00 PM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/29/2007 03:00 PM	WATER LEVEL (STAFF GAUGE)		1034.75	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/29/2007 03:00 PM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/04/2007 12:00 AM	TEMPERATURE FIELD		61.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/04/2007 12:00 AM	TEMPERATURE FIELD		60.9	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/04/2007 12:00 AM	TEMPERATURE FIELD		58.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/04/2007 12:00 AM	TEMPERATURE FIELD		58.4	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/04/2007 12:00 AM	TEMPERATURE FIELD		58.2	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/04/2007 12:00 AM	TEMPERATURE FIELD		58.2	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/04/2007 12:00 AM	TEMPERATURE FIELD		58.2	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/04/2007 12:00 AM	TEMPERATURE FIELD		58.2	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/04/2007 12:00 AM	SECCHI DEPTH - FEET		7.0	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/04/2007 12:00 AM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/04/2007 12:00 AM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/04/2007 12:00 AM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/04/2007 12:00 AM	WATER LEVEL (STAFF GAUGE)		1035.25	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/04/2007 12:00 AM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/24/2007 11:00 AM	TEMPERATURE FIELD		61.5	DEGREES F		

Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/24/2007 11:00 AM	TEMPERATURE FIELD	57.9	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/24/2007 11:00 AM	TEMPERATURE FIELD	58.2	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/24/2007 11:00 AM	TEMPERATURE FIELD	63.4	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/24/2007 11:00 AM	TEMPERATURE FIELD	62.2	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/24/2007 11:00 AM	TEMPERATURE FIELD	62	DEGREES F

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

Previous 1001-1025 of 1793 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/24/2007 11:00 AM	TEMPERATURE FIELD		62.2	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/24/2007 11:00 AM	TEMPERATURE FIELD		63.4	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/24/2007 11:00 AM	SECCHI DEPTH - FEET		5.5	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/24/2007 11:00 AM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/24/2007 11:00 AM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/24/2007 11:00 AM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/24/2007 11:00 AM	WATER LEVEL (STAFF GAUGE)		1035	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/24/2007 11:00 AM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/04/2007 10:00 AM	TEMPERATURE FIELD		64.7	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/04/2007 10:00 AM	TEMPERATURE FIELD		62.7	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/04/2007 10:00 AM	TEMPERATURE FIELD		68.3	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/04/2007 10:00 AM	TEMPERATURE FIELD		69.2	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/04/2007 10:00 AM	TEMPERATURE FIELD		69.9	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/04/2007 10:00 AM	TEMPERATURE FIELD		71.4	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/04/2007 10:00 AM	TEMPERATURE FIELD		71.9	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/04/2007 10:00 AM	TEMPERATURE FIELD		72.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/04/2007 10:00 AM	TEMPERATURE AT LAB		ICED	C		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/04/2007 10:00 AM	PHOSPHORUS TOTAL		0.023	MG/L		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/04/2007 10:00 AM	SAMPLE SIZE LITERS		200	ML		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/04/2007 10:00 AM	SECCHI DEPTH - FEET		10.75	FEET		

Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/04/2007 10:00 AM	WATER COLUMN APPEARANCE	CLEAR	
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/04/2007 10:00 AM	WATER COLOR (VISUAL)	BROWN	
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/04/2007 10:00 AM	USER PERCEPTION OF WATER QUALITY	1-Beautiful, could not be nicer	
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/04/2007 10:00 AM	WATER LEVEL (STAFF GAUGE)	1034.75	FEET
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/04/2007 10:00 AM	SECCHI DEPTH HIT BOTTOM	NO	Y/N

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

Previous 1026-1050 of 1793 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	09/04/2007 10:00 AM	CHLOROPHYLL A, FLUORESCENCE (WELSCHMAYER 1994)		*6.28	UG/L		HOLDING TIME EXCEEDED BY 20 DAYS
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/17/2007 12:00 AM	TEMPERATURE FIELD		63.1	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/17/2007 12:00 AM	TEMPERATURE FIELD		66.2	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/17/2007 12:00 AM	TEMPERATURE FIELD		72.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/17/2007 12:00 AM	TEMPERATURE FIELD		74.1	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/17/2007 12:00 AM	TEMPERATURE FIELD		74.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/17/2007 12:00 AM	TEMPERATURE FIELD		74.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/17/2007 12:00 AM	TEMPERATURE FIELD		75	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/17/2007 12:00 AM	TEMPERATURE FIELD		75	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/17/2007 12:00 AM	SECCHI DEPTH - FEET		9.0	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/17/2007 12:00 AM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/17/2007 12:00 AM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/17/2007 12:00 AM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/17/2007 12:00 AM	WATER LEVEL (STAFF GAUGE)		1035	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/17/2007 12:00 AM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/10/2007 12:00 AM	TEMPERATURE FIELD		64	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/10/2007 12:00 AM	TEMPERATURE FIELD		66.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/10/2007 12:00 AM	TEMPERATURE FIELD		72.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/10/2007 12:00 AM	TEMPERATURE FIELD		74.1	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole	08/10/2007 12:00 AM	TEMPERATURE FIELD		75.5	DEGREES F		

Near Dam				
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/10/2007 12:00 AM	TEMPERATURE FIELD	82	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/10/2007 12:00 AM	TEMPERATURE FIELD	78.8	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/10/2007 12:00 AM	TEMPERATURE FIELD	77.7	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/10/2007 12:00 AM	SECCHI DEPTH - FEET	14.75	FEET
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/10/2007 12:00 AM	WATER COLUMN APPEARANCE	CLEAR	

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

Previous 1051-1075 of 1793 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/10/2007 12:00 AM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/10/2007 12:00 AM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/10/2007 12:00 AM	WATER LEVEL (STAFF GAUGE)		1034.5	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/10/2007 12:00 AM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/02/2007 12:00 AM	TEMPERATURE FIELD		81.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/02/2007 12:00 AM	TEMPERATURE FIELD		81.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/02/2007 12:00 AM	TEMPERATURE FIELD		80.7	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/02/2007 12:00 AM	TEMPERATURE FIELD		80	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/02/2007 12:00 AM	TEMPERATURE FIELD		78	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/02/2007 12:00 AM	TEMPERATURE FIELD		72.3	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/02/2007 12:00 AM	TEMPERATURE FIELD		66.7	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/02/2007 12:00 AM	TEMPERATURE FIELD		64.2	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/02/2007 12:00 AM	SECCHI DEPTH - FEET		14.0	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/02/2007 12:00 AM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/02/2007 12:00 AM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/02/2007 12:00 AM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/02/2007 12:00 AM	WATER LEVEL (STAFF GAUGE)		1034.75	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	08/02/2007 12:00 AM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/16/2007 01:00 PM	TEMPERATURE FIELD		63.1	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/16/2007 01:00 PM	TEMPERATURE FIELD		67.8	DEGREES F		

Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/16/2007 01:00 PM	TEMPERATURE FIELD	68.3	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/16/2007 01:00 PM	TEMPERATURE FIELD	69	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/16/2007 01:00 PM	TEMPERATURE FIELD	69.8	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/16/2007 01:00 PM	TEMPERATURE FIELD	71.9	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/16/2007 01:00 PM	TEMPERATURE FIELD	74.1	DEGREES F

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

Previous 1076-1100 of 1793 Next

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/16/2007 01:00 PM	TEMPERATURE FIELD		67.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/16/2007 01:00 PM	SECCHI DEPTH - FEET		10.25	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/16/2007 01:00 PM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/16/2007 01:00 PM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/16/2007 01:00 PM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/16/2007 01:00 PM	WATER LEVEL (VISUAL)		NORMAL			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/16/2007 01:00 PM	WATER LEVEL (STAFF GAUGE)		1035	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/16/2007 01:00 PM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/16/2007 12:45 PM	TEMPERATURE AT LAB		10.	C		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/16/2007 12:45 PM	PHOSPHORUS TOTAL		0.020	MG/L		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/16/2007 12:45 PM	SAMPLE SIZE LITERS		200	ML		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/16/2007 12:45 PM	CHLOROPHYLL A, FLUORESCENCE (WELSCHMAYER 1994)		5.11	UG/L		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/09/2007 11:00 AM	TEMPERATURE FIELD		79.1	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/09/2007 11:00 AM	TEMPERATURE FIELD		78	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/09/2007 11:00 AM	TEMPERATURE FIELD		76.4	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/09/2007 11:00 AM	TEMPERATURE FIELD		80.2	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/09/2007 11:00 AM	TEMPERATURE FIELD		65.4	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/09/2007 11:00 AM	TEMPERATURE FIELD		73.4	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/09/2007 11:00 AM	TEMPERATURE FIELD		71.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/09/2007 11:00 AM	TEMPERATURE FIELD		60.8	DEGREES F		

Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/09/2007 11:00 AM	SECCHI DEPTH - FEET	11.5	FEET
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/09/2007 11:00 AM	WATER COLUMN APPEARANCE	CLEAR	
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/09/2007 11:00 AM	WATER COLOR (VISUAL)	BROWN	
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/09/2007 11:00 AM	USER PERCEPTION OF WATER QUALITY	1-Beautiful, could not be nicer	
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/09/2007 11:00 AM	WATER LEVEL (VISUAL)	NORMAL	

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/09/2007 11:00 AM	WATER LEVEL (STAFF GAUGE)		1035	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	07/09/2007 11:00 AM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/26/2007 01:00 PM	TEMPERATURE FIELD		80	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/26/2007 01:00 PM	TEMPERATURE FIELD		63.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/26/2007 01:00 PM	TEMPERATURE FIELD		60.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/26/2007 01:00 PM	TEMPERATURE FIELD		77.3	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/26/2007 01:00 PM	TEMPERATURE FIELD		81	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/26/2007 01:00 PM	TEMPERATURE FIELD		71	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/26/2007 01:00 PM	TEMPERATURE FIELD		78.4	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/26/2007 01:00 PM	TEMPERATURE FIELD		73.4	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/26/2007 01:00 PM	TEMPERATURE AT LAB		ICED	C		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/26/2007 01:00 PM	PHOSPHORUS TOTAL		0.022	MG/L		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/26/2007 01:00 PM	SAMPLE SIZE LITERS		200	ML		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/26/2007 01:00 PM	SECCHI DEPTH - FEET		7.0	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/26/2007 01:00 PM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/26/2007 01:00 PM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/26/2007 01:00 PM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/26/2007 01:00 PM	WATER LEVEL (VISUAL)		NORMAL			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/26/2007 01:00 PM	WATER LEVEL (STAFF GAUGE)		1035	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/26/2007 01:00 PM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		

Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/26/2007 01:00 PM	CHLOROPHYLL A, FLUORESCENCE (WELSCHMAYER 1994)	7.45	UG/L
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/23/2007 12:00 PM	TEMPERATURE FIELD	76.5	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/23/2007 12:00 PM	TEMPERATURE FIELD	63.3	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/23/2007 12:00 PM	TEMPERATURE FIELD	69.8	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/23/2007 12:00 PM	TEMPERATURE FIELD	60.6	DEGREES F

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

Show specific parameter: <Show All>

Sample Results

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/23/2007 12:00 PM	TEMPERATURE FIELD		74.6	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/23/2007 12:00 PM	TEMPERATURE FIELD		73.2	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/23/2007 12:00 PM	TEMPERATURE FIELD		71.4	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/23/2007 12:00 PM	TEMPERATURE FIELD		69.8	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/23/2007 12:00 PM	SECCHI DEPTH - FEET		7.0	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/23/2007 12:00 PM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/23/2007 12:00 PM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/23/2007 12:00 PM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/23/2007 12:00 PM	WATER LEVEL (VISUAL)		NORMAL			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/23/2007 12:00 PM	WATER LEVEL (STAFF GAUGE)		1035	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/23/2007 12:00 PM	SECCHI DEPTH HIT BOTTOM		NO	Y/N		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/01/2007 12:00 PM	TEMPERATURE FIELD		70.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/01/2007 12:00 PM	TEMPERATURE FIELD		60.2	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/01/2007 12:00 PM	TEMPERATURE FIELD		61.3	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/01/2007 12:00 PM	TEMPERATURE FIELD		63.3	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/01/2007 12:00 PM	TEMPERATURE FIELD		66	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/01/2007 12:00 PM	TEMPERATURE FIELD		71	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/01/2007 12:00 PM	TEMPERATURE FIELD		59	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/01/2007 12:00 PM	TEMPERATURE FIELD		69	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/01/2007 12:00 PM	SECCHI DEPTH - FEET		9.0	FEET		

Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/01/2007 12:00 PM	WATER COLUMN APPEARANCE	CLEAR	
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/01/2007 12:00 PM	WATER COLOR (VISUAL)	BROWN	
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/01/2007 12:00 PM	USER PERCEPTION OF WATER QUALITY	1-Beautiful, could not be nicer	
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	06/01/2007 12:00 PM	WATER LEVEL (STAFF GAUGE)	1035	FEET
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/21/2007 04:00 PM	SECCHI DEPTH - FEET	7.50	FEET

Monitoring Station

Station ID 663162
Station Name Trego Lake - Deep Hole Near Dam

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Sample Results

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/21/2007 04:00 PM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/21/2007 04:00 PM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/21/2007 04:00 PM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/21/2007 04:00 PM	WATER LEVEL (STAFF GAUGE)		1035	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/14/2007 11:00 AM	TEMPERATURE AT LAB		20.	C		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/14/2007 11:00 AM	PHOSPHORUS TOTAL		0.022	MG/L		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/14/2007 12:00 AM	TEMPERATURE FIELD		64.7	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/14/2007 12:00 AM	TEMPERATURE FIELD		55.2	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/14/2007 12:00 AM	TEMPERATURE FIELD		56.1	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/14/2007 12:00 AM	TEMPERATURE FIELD		58.2	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/14/2007 12:00 AM	TEMPERATURE FIELD		65.1	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/14/2007 12:00 AM	TEMPERATURE FIELD		65.4	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/14/2007 12:00 AM	TEMPERATURE FIELD		66.5	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/14/2007 12:00 AM	TEMPERATURE FIELD		67.9	DEGREES F		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/14/2007 12:00 AM	SECCHI DEPTH - FEET		6.25	FEET		
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/14/2007 12:00 AM	WATER COLUMN APPEARANCE		CLEAR			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/14/2007 12:00 AM	WATER COLOR (VISUAL)		BROWN			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/14/2007 12:00 AM	USER PERCEPTION OF WATER QUALITY		1-Beautiful, could not be nicer			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/14/2007 12:00 AM	WATER LEVEL (VISUAL)		LOW			
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/14/2007 12:00 AM	WATER LEVEL (STAFF GAUGE)		1034.5	FEET		

Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	05/14/2007 12:00 AM	SECCHI DEPTH HIT BOTTOM	NO	Y/N
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/24/2006 01:00 PM	TEMPERATURE FIELD	42	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/24/2006 01:00 PM	TEMPERATURE FIELD	41.3	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/24/2006 01:00 PM	TEMPERATURE FIELD	40.8	DEGREES F
Citizen Lake Monitoring - Water Quality - Trego Lake; Deep Hole Near Dam	10/24/2006 01:00 PM	TEMPERATURE FIELD	40.2	DEGREES F

Monitoring Station

Station ID 663176
Station Name Trego Flowage - Public Access

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/21/2019 04:00 PM	Total Time Spent At Landing by paid inspectors		0			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/21/2019 04:00 PM	Total Time Spent At Landing by unpaid (volunteer) inspectors		2			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/21/2019 04:00 PM	Number of People Contacted		5			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/21/2019 04:00 PM	Was boat used during past 5 days on diff wbody? - Yes		1			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/21/2019 04:00 PM	Was boat used during past 5 days on diff wbody? - No		1			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/21/2019 04:00 PM	Boat was entering landing		1			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/21/2019 04:00 PM	Boat was leaving landing		1			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/21/2019 04:00 PM	Waterbody Name Boat Last Visited (1)		shell lake			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/21/2019 04:00 PM	County Boat Last Visited (1)		Washburn County			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/21/2019 04:00 PM	Have you been contacted by a watercraft inspector this season? - Yes		2			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/21/2019 04:00 PM	Have you been contacted by a watercraft inspector this season? - No		0			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/21/2019 04:00 PM	Are you willing to answer a few questions? - Yes		2			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/21/2019 04:00 PM	Are you willing to answer a few questions? - No		0			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/17/2019 08:00 AM	Total Time Spent At Landing by paid inspectors		16			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/17/2019 08:00 AM	Total Time Spent At Landing by unpaid (volunteer) inspectors		8			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/17/2019 08:00 AM	Number of People Contacted		29			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/17/2019 08:00 AM	Was boat used during past 5 days on diff wbody? - Yes		2			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/17/2019 08:00 AM	Was boat used during past 5 days on diff wbody? - No		10			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/17/2019 08:00 AM	Boat was entering landing		9			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/17/2019 08:00 AM	Boat was leaving landing		3			

TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/17/2019 08:00 AM	Waterbody Name Boat Last Visited (2)	namekogan
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/17/2019 08:00 AM	Waterbody Name Boat Last Visited (1)	trego lake / namekogan river upstream
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/17/2019 08:00 AM	County Boat Last Visited (1)	Washburn County
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/17/2019 08:00 AM	County Boat Last Visited (2)	Washburn County
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/17/2019 08:00 AM	Have you been contacted by a watercraft inspector this season? - Yes	5

Monitoring Station

Station ID 663176
Station Name Trego Flowage - Public Access

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/17/2019 08:00 AM	Have you been contacted by a watercraft inspector this season? - No		7			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/17/2019 08:00 AM	Are you willing to answer a few questions? - Yes		12			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/17/2019 08:00 AM	Are you willing to answer a few questions? - No		0			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/11/2019 10:00 AM	Total Time Spent At Landing by paid inspectors		6			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/11/2019 10:00 AM	Total Time Spent At Landing by unpaid (volunteer) inspectors		6			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/11/2019 10:00 AM	Number of People Contacted		12			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/11/2019 10:00 AM	Was boat used during past 5 days on diff wbody? - Yes		0			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/11/2019 10:00 AM	Was boat used during past 5 days on diff wbody? - No		7			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/11/2019 10:00 AM	Boat was entering landing		4			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/11/2019 10:00 AM	Boat was leaving landing		3			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/11/2019 10:00 AM	Have you been contacted by a watercraft inspector this season? - Yes		4			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/11/2019 10:00 AM	Have you been contacted by a watercraft inspector this season? - No		3			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/11/2019 10:00 AM	Are you willing to answer a few questions? - Yes		7			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/11/2019 10:00 AM	Are you willing to answer a few questions? - No		0			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/10/2019 01:00 PM	Total Time Spent At Landing by paid inspectors		8			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/10/2019 01:00 PM	Number of People Contacted		6			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/10/2019 01:00 PM	Was boat used during past 5 days on diff wbody? - Yes		1			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/10/2019 01:00 PM	Was boat used during past 5 days on diff wbody? - No		2			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/10/2019 01:00 PM	Boat was entering landing		2			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/10/2019 01:00 PM	Boat was leaving landing		1			

TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/10/2019 01:00 PM	Waterbody Name Boat Last Visited (1)	trego lake
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/10/2019 01:00 PM	County Boat Last Visited (1)	Washburn County
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/10/2019 01:00 PM	Have you been contacted by a watercraft inspector this season? - Yes	1
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/10/2019 01:00 PM	Have you been contacted by a watercraft inspector this season? - No	2
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/10/2019 01:00 PM	Are you willing to answer a few questions? - Yes	3

Monitoring Station

Station ID 663176
Station Name Trego Flowage - Public Access

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Sample Results

Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/10/2019 01:00 PM	Are you willing to answer a few questions? - No		0			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/09/2019 09:00 AM	Total Time Spent At Landing by paid inspectors		3.5			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/09/2019 09:00 AM	Number of People Contacted		7			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/09/2019 09:00 AM	Was boat used during past 5 days on diff wbody? - Yes		1			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/09/2019 09:00 AM	Was boat used during past 5 days on diff wbody? - No		2			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/09/2019 09:00 AM	Boat was entering landing		2			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/09/2019 09:00 AM	Boat was leaving landing		1			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/09/2019 09:00 AM	Waterbody Name Boat Last Visited (1)		gull lake			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/09/2019 09:00 AM	County Boat Last Visited (1)		Washburn County			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/09/2019 09:00 AM	Have you been contacted by a watercraft inspector this season? - Yes		2			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/09/2019 09:00 AM	Have you been contacted by a watercraft inspector this season? - No		1			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/09/2019 09:00 AM	Are you willing to answer a few questions? - Yes		3			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/09/2019 09:00 AM	Are you willing to answer a few questions? - No		0			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/02/2019 08:45 AM	Total Time Spent At Landing by paid inspectors		4.5			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/02/2019 08:45 AM	Number of People Contacted		5			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/02/2019 08:45 AM	Was boat used during past 5 days on diff wbody? - Yes		0			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/02/2019 08:45 AM	Was boat used during past 5 days on diff wbody? - No		3			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/02/2019 08:45 AM	Boat was entering landing		0			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/02/2019 08:45 AM	Boat was leaving landing		3			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/02/2019 08:45 AM	Have you been contacted by a watercraft inspector this season? - Yes		0			

TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/02/2019 08:45 AM	Have you been contacted by a watercraft inspector this season? - No	3
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/02/2019 08:45 AM	Are you willing to answer a few questions? - Yes	3
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	08/02/2019 08:45 AM	Are you willing to answer a few questions? - No	0
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/29/2019 05:00 PM	Total Time Spent At Landing by paid inspectors	0
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/29/2019 05:00 PM	Total Time Spent At Landing by unpaid (volunteer) inspectors	1

Monitoring Station

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/29/2019 05:00 PM	Number of People Contacted		2			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/29/2019 05:00 PM	Was boat used during past 5 days on diff wbody? - Yes		0			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/29/2019 05:00 PM	Was boat used during past 5 days on diff wbody? - No		1			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/29/2019 05:00 PM	Boat was entering landing		0			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/29/2019 05:00 PM	Boat was leaving landing		1			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/29/2019 05:00 PM	Have you been contacted by a watercraft inspector this season? - Yes		1			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/29/2019 05:00 PM	Have you been contacted by a watercraft inspector this season? - No		0			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/29/2019 05:00 PM	Are you willing to answer a few questions? - Yes		1			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/29/2019 05:00 PM	Are you willing to answer a few questions? - No		0			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/27/2019 02:00 PM	Total Time Spent At Landing by paid inspectors		0			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/27/2019 02:00 PM	Total Time Spent At Landing by unpaid (volunteer) inspectors		2			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/27/2019 02:00 PM	Number of People Contacted		4			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/27/2019 02:00 PM	Was boat used during past 5 days on diff wbody? - Yes		1			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/27/2019 02:00 PM	Was boat used during past 5 days on diff wbody? - No		1			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/27/2019 02:00 PM	Boat was entering landing		2			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/27/2019 02:00 PM	Boat was leaving landing		0			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/27/2019 02:00 PM	Waterbody Name Boat Last Visited (1)		clam lake			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/27/2019 02:00 PM	County Boat Last Visited (1)		Burnett County			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/27/2019 02:00 PM	Have you been contacted by a watercraft inspector this season? - Yes		0			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/27/2019 02:00 PM	Have you been contacted by a watercraft inspector this season? - No		2			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/27/2019 02:00 PM	Are you willing to answer a few questions? - Yes		2			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/27/2019 02:00 PM	Are you willing to answer a few questions? - No		0			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/26/2019 05:00 PM	Total Time Spent At Landing by paid inspectors		0			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/26/2019 05:00 PM	Total Time Spent At Landing by unpaid (volunteer) inspectors		1			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/26/2019 05:00 PM	Number of People Contacted		2			

Monitoring Station

Station ID 663176
Station Name Trego Flowage - Public Access

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/26/2019 05:00 PM	Was boat used during past 5 days on diff wbody? - Yes		0			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/26/2019 05:00 PM	Was boat used during past 5 days on diff wbody? - No		1			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/26/2019 05:00 PM	Boat was entering landing		0			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/26/2019 05:00 PM	Boat was leaving landing		1			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/26/2019 05:00 PM	Have you been contacted by a watercraft inspector this season? - Yes		0			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/26/2019 05:00 PM	Have you been contacted by a watercraft inspector this season? - No		1			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/26/2019 05:00 PM	Are you willing to answer a few questions? - Yes		1			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/26/2019 05:00 PM	Are you willing to answer a few questions? - No		0			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/24/2019 11:00 AM	Total Time Spent At Landing by paid inspectors		0			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/24/2019 11:00 AM	Total Time Spent At Landing by unpaid (volunteer) inspectors		4			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/24/2019 11:00 AM	Number of People Contacted		10			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/24/2019 11:00 AM	Was boat used during past 5 days on diff wbody? - Yes		1			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/24/2019 11:00 AM	Was boat used during past 5 days on diff wbody? - No		3			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/24/2019 11:00 AM	Boat was entering landing		3			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/24/2019 11:00 AM	Boat was leaving landing		1			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/24/2019 11:00 AM	Waterbody Name Boat Last Visited (1)		cyclone lake			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/24/2019 11:00 AM	County Boat Last Visited (1)		Washburn County			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/24/2019 11:00 AM	Have you been contacted by a watercraft inspector this season? - Yes		2			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/24/2019 11:00 AM	Have you been contacted by a watercraft inspector this season? - No		2			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/24/2019 11:00 AM	Are you willing to answer a few questions? - Yes		4			

TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/24/2019 11:00 AM	Are you willing to answer a few questions? - No	0
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/20/2019 08:00 AM	Total Time Spent At Landing by paid inspectors	0
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/20/2019 08:00 AM	Total Time Spent At Landing by unpaid (volunteer) inspectors	4
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/20/2019 08:00 AM	Number of People Contacted	7
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/20/2019 08:00 AM	Was boat used during past 5 days on diff wbody? - Yes	1

Monitoring Station

Station ID 663176
Station Name Trego Flowage - Public Access

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/20/2019 08:00 AM	Was boat used during past 5 days on diff wbody? - No		2			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/20/2019 08:00 AM	Boat was entering landing		2			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/20/2019 08:00 AM	Boat was leaving landing		1			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/20/2019 08:00 AM	Waterbody Name Boat Last Visited (1)		TOZER LAKE			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/20/2019 08:00 AM	County Boat Last Visited (1)		Washburn County			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/20/2019 08:00 AM	Have you been contacted by a watercraft inspector this season? - Yes		1			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/20/2019 08:00 AM	Have you been contacted by a watercraft inspector this season? - No		2			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/20/2019 08:00 AM	Are you willing to answer a few questions? - Yes		3			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/20/2019 08:00 AM	Are you willing to answer a few questions? - No		0			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/18/2019 04:00 PM	Total Time Spent At Landing by paid inspectors		0			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/18/2019 04:00 PM	Total Time Spent At Landing by unpaid (volunteer) inspectors		2			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/18/2019 04:00 PM	Number of People Contacted		2			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/18/2019 04:00 PM	Was boat used during past 5 days on diff wbody? - Yes		1			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/18/2019 04:00 PM	Was boat used during past 5 days on diff wbody? - No		0			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/18/2019 04:00 PM	Boat was entering landing		1			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/18/2019 04:00 PM	Boat was leaving landing		0			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/18/2019 04:00 PM	Waterbody Name Boat Last Visited (1)		matthews lake			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/18/2019 04:00 PM	County Boat Last Visited (1)		Washburn County			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/18/2019 04:00 PM	Have you been contacted by a watercraft inspector this season? - Yes		0			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/18/2019 04:00 PM	Have you been contacted by a watercraft inspector this season? - No		1			

TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/18/2019 04:00 PM	Are you willing to answer a few questions? - Yes	1
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/18/2019 04:00 PM	Are you willing to answer a few questions? - No	0
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/11/2019 05:00 PM	Total Time Spent At Landing by paid inspectors	2
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/11/2019 05:00 PM	Total Time Spent At Landing by unpaid (volunteer) inspectors	0
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/11/2019 05:00 PM	Number of People Contacted	6

Monitoring Station

Station ID 663176
Station Name Trego Flowage - Public Access

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/11/2019 05:00 PM	Was boat used during past 5 days on diff wbody? - Yes		1			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/11/2019 05:00 PM	Was boat used during past 5 days on diff wbody? - No		0			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/11/2019 05:00 PM	Boat was entering landing		2			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/11/2019 05:00 PM	Boat was leaving landing		0			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/11/2019 05:00 PM	Waterbody Name Boat Last Visited (1)		yellow river			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/11/2019 05:00 PM	County Boat Last Visited (1)		Washburn County			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/11/2019 05:00 PM	Have you been contacted by a watercraft inspector this season? - Yes		0			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/11/2019 05:00 PM	Have you been contacted by a watercraft inspector this season? - No		2			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/11/2019 05:00 PM	Are you willing to answer a few questions? - Yes		2			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/11/2019 05:00 PM	Are you willing to answer a few questions? - No		0			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/06/2019 08:00 AM	Total Time Spent At Landing by paid inspectors		0			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/06/2019 08:00 AM	Total Time Spent At Landing by unpaid (volunteer) inspectors		4			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/06/2019 08:00 AM	Number of People Contacted		8			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/06/2019 08:00 AM	Was boat used during past 5 days on diff wbody? - Yes		1			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/06/2019 08:00 AM	Was boat used during past 5 days on diff wbody? - No		2			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/06/2019 08:00 AM	Boat was entering landing		2			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/06/2019 08:00 AM	Boat was leaving landing		1			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/06/2019 08:00 AM	Waterbody Name Boat Last Visited (1)		Trego Lake			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/06/2019 08:00 AM	County Boat Last Visited (1)		Washburn County			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/06/2019 08:00 AM	Have you been contacted by a watercraft inspector this season? - Yes		1			

TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/06/2019 08:00 AM	Have you been contacted by a watercraft inspector this season? - No	2
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/06/2019 08:00 AM	Are you willing to answer a few questions? - Yes	3
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/06/2019 08:00 AM	Are you willing to answer a few questions? - No	0
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/02/2019 06:00 PM	Total Time Spent At Landing by paid inspectors	2
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/02/2019 06:00 PM	Number of People Contacted	4

Monitoring Station

Station ID 663176
Station Name Trego Flowage - Public Access

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/02/2019 06:00 PM	Was boat used during past 5 days on diff wbody? - Yes		1			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/02/2019 06:00 PM	Was boat used during past 5 days on diff wbody? - No		1			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/02/2019 06:00 PM	Boat was entering landing		2			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/02/2019 06:00 PM	Boat was leaving landing		0			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/02/2019 06:00 PM	Waterbody Name Boat Last Visited (1)		long lake, sarona			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/02/2019 06:00 PM	County Boat Last Visited (1)		Washburn County			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/02/2019 06:00 PM	Have you been contacted by a watercraft inspector this season? - Yes		0			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/02/2019 06:00 PM	Have you been contacted by a watercraft inspector this season? - No		2			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/02/2019 06:00 PM	Are you willing to answer a few questions? - Yes		2			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	07/02/2019 06:00 PM	Are you willing to answer a few questions? - No		0			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/28/2019 09:00 AM	Total Time Spent At Landing by paid inspectors		16			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/28/2019 09:00 AM	Number of People Contacted		11			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/28/2019 09:00 AM	Was boat used during past 5 days on diff wbody? - Yes		2			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/28/2019 09:00 AM	Was boat used during past 5 days on diff wbody? - No		5			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/28/2019 09:00 AM	Boat was entering landing		5			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/28/2019 09:00 AM	Boat was leaving landing		2			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/28/2019 09:00 AM	Waterbody Name Boat Last Visited (2)		lake namekogan			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/28/2019 09:00 AM	Waterbody Name Boat Last Visited (1)		spooner lake			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/28/2019 09:00 AM	County Boat Last Visited (1)		Washburn County			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/28/2019 09:00 AM	County Boat Last Visited (2)		Sawyer County			

TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/28/2019 09:00 AM	Have you been contacted by a watercraft inspector this season? - Yes	3
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/28/2019 09:00 AM	Have you been contacted by a watercraft inspector this season? - No	4
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/28/2019 09:00 AM	Are you willing to answer a few questions? - Yes	7
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/28/2019 09:00 AM	Are you willing to answer a few questions? - No	0
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/22/2019 10:00 AM	Total Time Spent At Landing by paid inspectors	5

Monitoring Station

Station ID 663176
Station Name Trego Flowage - Public Access

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/22/2019 10:00 AM	Number of People Contacted		4			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/22/2019 10:00 AM	Was boat used during past 5 days on diff wbody? - Yes		1			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/22/2019 10:00 AM	Was boat used during past 5 days on diff wbody? - No		2			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/22/2019 10:00 AM	Boat was entering landing		4			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/22/2019 10:00 AM	Boat was leaving landing		1			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/22/2019 10:00 AM	Waterbody Name Boat Last Visited (1)		Cable Lake			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/22/2019 10:00 AM	County Boat Last Visited (1)		Washburn County			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/22/2019 10:00 AM	Have you been contacted by a watercraft inspector this season? - Yes		4			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/22/2019 10:00 AM	Have you been contacted by a watercraft inspector this season? - No		1			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/22/2019 10:00 AM	Are you willing to answer a few questions? - Yes		3			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/22/2019 10:00 AM	Are you willing to answer a few questions? - No		2			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/09/2019 10:00 AM	Total Time Spent At Landing by paid inspectors		8			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/09/2019 10:00 AM	Number of People Contacted		32			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/09/2019 10:00 AM	Was boat used during past 5 days on diff wbody? - Yes		2			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/09/2019 10:00 AM	Was boat used during past 5 days on diff wbody? - No		9			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/09/2019 10:00 AM	Boat was entering landing		4			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/09/2019 10:00 AM	Boat was leaving landing		8			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/09/2019 10:00 AM	Waterbody Name Boat Last Visited (2)		shallow lake			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/09/2019 10:00 AM	Waterbody Name Boat Last Visited (1)		potatoe lake			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/09/2019 10:00 AM	County Boat Last Visited (1)		Washburn County			

TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/09/2019 10:00 AM	County Boat Last Visited (2)	Barron County
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/09/2019 10:00 AM	Have you been contacted by a watercraft inspector this season? - Yes	1
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/09/2019 10:00 AM	Have you been contacted by a watercraft inspector this season? - No	11
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/09/2019 10:00 AM	Are you willing to answer a few questions? - Yes	11
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/09/2019 10:00 AM	Are you willing to answer a few questions? - No	1

Monitoring Station

Station ID 663176
Station Name Trego Flowage - Public Access

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/02/2019 02:00 PM	Total Time Spent At Landing by paid inspectors		4			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/02/2019 02:00 PM	Number of People Contacted		3			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/02/2019 02:00 PM	Was boat used during past 5 days on diff wbody? - No		2			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/02/2019 02:00 PM	Boat was entering landing		1			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/02/2019 02:00 PM	Boat was leaving landing		1			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/02/2019 02:00 PM	Have you been contacted by a watercraft inspector this season? - No		2			
TREGO LAKE DISTRICT: Trego Lake District 2019 CBCW	06/02/2019 02:00 PM	Are you willing to answer a few questions? - Yes		2			

Monitoring Station

Station ID 10034498
Station Name Trego Lake - Upstream

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
	05/31/2020 11:30 AM	TURBIDITY		6.1	NTU		
	05/31/2020 11:30 AM	COLOR		75	C		
	05/31/2020 11:30 AM	CONDUCTIVITY, UMHOS/CM @ 25C		136	UMHOS/CM		
	05/31/2020 11:30 AM	PH LAB		7.9	SU		
	05/31/2020 11:30 AM	ALKALINITY TOTAL CACO3		62	MG/L		
	05/31/2020 11:30 AM	NITROGEN NH3-N DISS		0.05	MG/L		
	05/31/2020 11:30 AM	NITROGEN KJELDAHL TOTAL		0.49	MG/L		
	05/31/2020 11:30 AM	NITROGEN NO3+NO2 DISS (AS N)		0.2	MG/L		
	05/31/2020 11:30 AM	PHOSPHORUS TOTAL		0.031	MG/L		
	05/31/2020 11:30 AM	PHOSPHATE ORTHO DISS		0.006	MG/L		
	05/31/2020 11:30 AM	CALCIUM DISS		16.307	MG/L		
	05/31/2020 11:30 AM	MAGNESIUM DISS		4.768	MG/L		
	05/31/2020 11:30 AM	SODIUM DISS		3.004	MG/L		
	05/31/2020 11:30 AM	POTASSIUM DISS		0.623	MG/L		
	05/31/2020 11:30 AM	CHLORIDE		3	MG/L		
	05/31/2020 11:30 AM	HARDNESS, CA MG CALCULATED (MG/L AS CACO3)		60.3462	MG/L		
	10/19/2019 12:00 AM	CONDUCTIVITY, UMHOS/CM @ 25C		153	UMHOS/CM		
	10/19/2019 12:00 AM	NITROGEN NH3-N DISS		0.04	MG/L		
	10/19/2019 12:00 AM	NITROGEN KJELDAHL TOTAL		0.41	MG/L		
	10/19/2019 12:00 AM	NITROGEN NO3+NO2 DISS (AS N)		0.2	MG/L		
	10/19/2019 12:00 AM	PHOSPHORUS TOTAL		0.017	MG/L		
	10/19/2019 12:00 AM	PHOSPHATE ORTHO DISS		0.004	MG/L		
	10/19/2019 12:00 AM	CHLORIDE		3.9	MG/L		
	04/03/2019 11:00 AM	CONDUCTIVITY, UMHOS/CM @ 25C		798	UMHOS/CM		
	04/03/2019 11:00 AM	NITROGEN NH3-N DISS		ND	MG/L		

Monitoring Station

Station ID 10034498
Station Name Trego Lake - Upstream

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
	04/03/2019 11:00 AM	NITROGEN KJELDAHL TOTAL		0.36	MG/L		
	04/03/2019 11:00 AM	NITROGEN NO3+NO2 DISS (AS N)		0.1	MG/L		
	04/03/2019 11:00 AM	PHOSPHORUS TOTAL		0.025	MG/L		
	04/03/2019 11:00 AM	PHOSPHATE ORTHO DISS		0.003	MG/L		
	04/03/2019 11:00 AM	CHLORIDE		3.3	MG/L		
	10/27/2018 10:00 AM	TURBIDITY		2.2	NTU		
	10/27/2018 10:00 AM	TURBIDITY		2.2	NTU		
	10/27/2018 10:00 AM	COLOR		38	C		
	10/27/2018 10:00 AM	COLOR		38	C		
	10/27/2018 10:00 AM	CONDUCTIVITY, UMHOS/CM @ 25C		163	UMHOS/CM		
	10/27/2018 10:00 AM	CONDUCTIVITY, UMHOS/CM @ 25C		163	UMHOS/CM		
	10/27/2018 10:00 AM	PH LAB		7.98	SU		
	10/27/2018 10:00 AM	PH LAB		7.98	SU		
	10/27/2018 10:00 AM	ALKALINITY TOTAL CACO3		73	MG/L		
	10/27/2018 10:00 AM	ALKALINITY TOTAL CACO3		73	MG/L		
	10/27/2018 10:00 AM	NITROGEN NH3-N DISS		0.02	MG/L		
	10/27/2018 10:00 AM	NITROGEN NH3-N DISS		0.02	MG/L		
	10/27/2018 10:00 AM	NITROGEN KJELDAHL TOTAL		0.34	MG/L		
	10/27/2018 10:00 AM	NITROGEN KJELDAHL TOTAL		0.34	MG/L		
	10/27/2018 10:00 AM	NITROGEN NO3+NO2 DISS (AS N)		0.25	MG/L		
	10/27/2018 10:00 AM	NITROGEN NO3+NO2 DISS (AS N)		0.25	MG/L		
	10/27/2018 10:00 AM	PHOSPHORUS TOTAL		0.023	MG/L		
	10/27/2018 10:00 AM	PHOSPHORUS TOTAL		0.023	MG/L		
	10/27/2018 10:00 AM	PHOSPHATE ORTHO DISS		0.009	MG/L		
	10/27/2018 10:00 AM	PHOSPHATE ORTHO DISS		0.009	MG/L		

Monitoring Station

Station ID 10034498
Station Name Trego Lake - Upstream

Show specific parameter: <Show All>

Sample Results

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
	10/27/2018 10:00 AM	CALCIUM DISS		20.993	MG/L		
	10/27/2018 10:00 AM	CALCIUM TOTAL RECOVERABLE		20.993	MG/L		
	10/27/2018 10:00 AM	MAGNESIUM DISS		5.613	MG/L		
	10/27/2018 10:00 AM	MAGNESIUM DISS		5.613	MG/L		
	10/27/2018 10:00 AM	SODIUM DISS		3.544	MG/L		
	10/27/2018 10:00 AM	SODIUM DISS		3.544	MG/L		
	10/27/2018 10:00 AM	POTASSIUM DISS		0.739	MG/L		
	10/27/2018 10:00 AM	POTASSIUM, TOTAL		0.739	MG/L		
	10/27/2018 10:00 AM	CHLORIDE		4.3	MG/L		
	10/27/2018 10:00 AM	CHLORIDE		4.3	MG/L		
	06/24/2018 12:00 AM	CONDUCTIVITY, UMHOS/CM @ 25C		125	UMHOS/CM		
	06/24/2018 12:00 AM	NITROGEN NH3-N DISS		0.06	MG/L		
	06/24/2018 12:00 AM	NITROGEN KJELDAHL TOTAL		0.59	MG/L		
	06/24/2018 12:00 AM	NITROGEN NO3+NO2 DISS (AS N)		0.18	MG/L		
	06/24/2018 12:00 AM	PHOSPHORUS TOTAL		0.045	MG/L		
	06/24/2018 12:00 AM	PHOSPHATE ORTHO DISS		0.011	MG/L		
	06/24/2018 12:00 AM	CHLORIDE		3.3	MG/L		
	10/14/2017 12:00 AM	CONDUCTIVITY, UMHOS/CM @ 25C		157	US/CM@25°C		
	10/14/2017 12:00 AM	NITROGEN NH3-N DISS		0.06	MG/L		
	10/14/2017 12:00 AM	NITROGEN KJELDAHL TOTAL		0.39	MG/L		
	10/14/2017 12:00 AM	NITROGEN NO3+NO2 DISS (AS N)		0.25	MG/L		
	10/14/2017 12:00 AM	PHOSPHORUS TOTAL		0.028	MG/L		
	10/14/2017 12:00 AM	PHOSPHATE ORTHO DISS		0.003	MG/L		
	10/14/2017 12:00 AM	CHLORIDE		4.0	MG/L		
	04/28/2017 12:00 AM	TEMPERATURE FIELD		51	F		

Monitoring Station

Station ID 10034498
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Sample Results

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
	04/28/2017 12:00 AM	TURBIDITY		3.8	NTU		
	04/28/2017 12:00 AM	COLOR		50	COLOR UNITS		
	04/28/2017 12:00 AM	CONDUCTIVITY, UMHOS/CM @ 25C		147	US/CM@25°C		
	04/28/2017 12:00 AM	PH LAB		7.72	SU		
	04/28/2017 12:00 AM	ALKALINITY TOTAL CACO3		63	MG/L		
	04/28/2017 12:00 AM	NITROGEN NH3-N DISS		0.02	MG/L		
	04/28/2017 12:00 AM	NITROGEN KJELDAHL TOTAL		0.36	MG/L		
	04/28/2017 12:00 AM	NITROGEN NO3+NO2 DISS (AS N)		0.14	MG/L		
	04/28/2017 12:00 AM	PHOSPHORUS TOTAL		0.021	MG/L		
	04/28/2017 12:00 AM	PHOSPHATE ORTHO DISS		0.002	MG/L		
	04/28/2017 12:00 AM	CALCIUM DISS		17.489	MG/L		
	04/28/2017 12:00 AM	MAGNESIUM TOTAL		4.816	MG/L		
	04/28/2017 12:00 AM	SODIUM TOTAL		2.93	MG/L		
	04/28/2017 12:00 AM	POTASSIUM, TOTAL		0.68	MG/L		
	04/28/2017 12:00 AM	CHLORIDE		3.7	MG/L		
	04/28/2017 12:00 AM	SECCHI DEPTH - FEET		5	FEET		
	04/28/2017 12:00 AM	SULFUR		3.41	MG/L		
	10/29/2016 12:00 AM	CONDUCTIVITY, UMHOS/CM @ 25C		176	US/CM@25°C		
	10/29/2016 12:00 AM	NITROGEN NH3-N DISS		0.09	MG/L		
	10/29/2016 12:00 AM	NITROGEN KJELDAHL TOTAL		0.42	MG/L		
	10/29/2016 12:00 AM	NITROGEN NO3+NO2 DISS (AS N)		0.22	MG/L		
	10/29/2016 12:00 AM	PHOSPHORUS TOTAL		<0.006	MG/L		
	10/29/2016 12:00 AM	PHOSPHATE ORTHO DISS		0.010	MG/L		
	10/29/2016 12:00 AM	CHLORIDE		4.9	MG/L		
	10/26/2014 12:00 AM	TEMPERATURE FIELD		50.4	F		

Monitoring Station

Station ID 10034498
Station Name Trego Lake - Upstream

Show specific parameter: <Show All>

Sample Results

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
	10/26/2014 12:00 AM	TURBIDITY		4.9	NTU		
	10/26/2014 12:00 AM	COLOR		38	COLOR UNITS		
	10/26/2014 12:00 AM	NITROGEN NH3-N DISS		0.02	MG/L		
	10/26/2014 12:00 AM	NITROGEN KJELDAHL TOTAL		0.34	MG/L		
	10/26/2014 12:00 AM	NITROGEN NO3+NO2 DISS (AS N)		0.22	MG/L		
	10/26/2014 12:00 AM	PHOSPHORUS TOTAL		0.020	MG/L		
	10/26/2014 12:00 AM	PHOSPHATE ORTHO DISS		0.013	MG/L		
	10/26/2014 12:00 AM	CALCIUM DISS		23.41	MG/L		
	10/26/2014 12:00 AM	MAGNESIUM TOTAL		6.395	MG/L		
	10/26/2014 12:00 AM	SODIUM TOTAL		3.5	MG/L		
	10/26/2014 12:00 AM	POTASSIUM, TOTAL		0.80	MG/L		
	10/26/2014 12:00 AM	CHLORIDE		5.3	MG/L		
	10/26/2014 12:00 AM	SULFUR		4.41	MG/L		
	06/12/2013 12:00 AM	TEMPERATURE FIELD		67	F		
	06/12/2013 12:00 AM	CONDUCTIVITY, UMHOS/CM @ 25C		126	US/CM@25°C		
	06/12/2013 12:00 AM	NITROGEN NH3-N DISS		0.05	MG/L		
	06/12/2013 12:00 AM	NITROGEN KJELDAHL TOTAL		0.70	MG/L		
	06/12/2013 12:00 AM	NITROGEN NO3+NO2 DISS (AS N)		0.21	MG/L		
	06/12/2013 12:00 AM	PHOSPHORUS TOTAL		0.065	MG/L		
	06/12/2013 12:00 AM	PHOSPHATE ORTHO DISS		0.025	MG/L		
	06/12/2013 12:00 AM	CHLORIDE		4.4	MG/L		
	06/12/2013 12:00 AM	SECCHI DEPTH - FEET		3.5	FEET		
	10/30/2012 12:00 AM	TEMPERATURE FIELD		40	F		
	10/30/2012 12:00 AM	CONDUCTIVITY, UMHOS/CM @ 25C		174	US/CM@25°C		
	10/30/2012 12:00 AM	NITROGEN NH3-N DISS		0.04	MG/L		

Monitoring Station

Station ID 10034498
Station Name Trego Lake - Upstream

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Sample Results

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
	10/30/2012 12:00 AM	NITROGEN KJELDAHL TOTAL		0.24	MG/L		
	10/30/2012 12:00 AM	NITROGEN NO3+NO2 DISS (AS N)		0.30	MG/L		
	10/30/2012 12:00 AM	PHOSPHORUS TOTAL		0.015	MG/L		
	10/30/2012 12:00 AM	PHOSPHATE ORTHO DISS		0.012	MG/L		
	10/30/2012 12:00 AM	CHLORIDE		5.3	MG/L		
	04/11/2012 12:00 AM	TEMPERATURE FIELD		46.8	F		
	04/11/2012 12:00 AM	CONDUCTIVITY, UMHOS/CM @ 25C		158	US/CM@25°C		
	04/11/2012 12:00 AM	NITROGEN NH3-N DISS		0.03	MG/L		
	04/11/2012 12:00 AM	NITROGEN KJELDAHL TOTAL		0.28	MG/L		
	04/11/2012 12:00 AM	NITROGEN NO3+NO2 DISS (AS N)		0.17	MG/L		
	04/11/2012 12:00 AM	PHOSPHORUS TOTAL		0.030	MG/L		
	04/11/2012 12:00 AM	PHOSPHATE ORTHO DISS		0.016	MG/L		
	04/11/2012 12:00 AM	CHLORIDE		4.4	MG/L		
	04/11/2012 12:00 AM	SECCHI DEPTH - FEET		4.5	FEET		
	10/31/2011 12:00 AM	TEMPERATURE FIELD		43	F		
	10/31/2011 12:00 AM	CONDUCTIVITY, UMHOS/CM @ 25C		146	US/CM@25°C		
	10/31/2011 12:00 AM	NITROGEN NH3-N DISS		0.02	MG/L		
	10/31/2011 12:00 AM	NITROGEN KJELDAHL TOTAL		0.27	MG/L		
	10/31/2011 12:00 AM	NITROGEN NO3+NO2 DISS (AS N)		<0.1	MG/L		
	10/31/2011 12:00 AM	PHOSPHORUS TOTAL		0.016	MG/L		
	10/31/2011 12:00 AM	PHOSPHATE ORTHO DISS		0.010	MG/L		
	10/31/2011 12:00 AM	CHLORIDE		4.3	MG/L		
	05/03/2011 12:00 AM	TEMPERATURE FIELD		45	F		
	05/03/2011 12:00 AM	CONDUCTIVITY, UMHOS/CM @ 25C		110	US/CM@25°C		
	05/03/2011 12:00 AM	NITROGEN NH3-N DISS		0.01	MG/L		

Monitoring Station

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Sample Results

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
	05/03/2011 12:00 AM	NITROGEN KJELDAHL TOTAL		0.052	MG/L		
	05/03/2011 12:00 AM	NITROGEN NO3+NO2 DISS (AS N)		0.14	MG/L		
	05/03/2011 12:00 AM	PHOSPHORUS TOTAL		0.025	MG/L		
	05/03/2011 12:00 AM	PHOSPHATE ORTHO DISS		0.012	MG/L		
	05/03/2011 12:00 AM	CHLORIDE		2.6	MG/L		
	05/03/2011 12:00 AM	SECCHI DEPTH - FEET		5	FEET		
	11/02/2010 12:00 AM	CONDUCTIVITY, UMHOS/CM @ 25C		102	US/CM@25°C		
	11/02/2010 12:00 AM	NITROGEN NH3-N DISS		0.04	MG/L		
	11/02/2010 12:00 AM	NITROGEN KJELDAHL TOTAL		0.69	MG/L		
	11/02/2010 12:00 AM	NITROGEN NO3+NO2 DISS (AS N)		0.18	MG/L		
	11/02/2010 12:00 AM	PHOSPHORUS TOTAL		0.024	MG/L		
	11/02/2010 12:00 AM	PHOSPHATE ORTHO DISS		0.020	MG/L		
	11/02/2010 12:00 AM	CHLORIDE		3.6	MG/L		
	11/02/2010 12:00 AM	SECCHI DEPTH - FEET		3	FEET		
	04/12/2010 12:00 AM	TEMPERATURE FIELD		53	F		
	04/12/2010 12:00 AM	CONDUCTIVITY, UMHOS/CM @ 25C		164	US/CM@25°C		
	04/12/2010 12:00 AM	NITROGEN NH3-N DISS		.01	MG/L		
	04/12/2010 12:00 AM	NITROGEN KJELDAHL TOTAL		.26	MG/L		
	04/12/2010 12:00 AM	NITROGEN NO3+NO2 DISS (AS N)		.17	MG/L		
	04/12/2010 12:00 AM	PHOSPHORUS TOTAL		.022	MG/L		
	04/12/2010 12:00 AM	PHOSPHATE ORTHO DISS		.007	MG/L		
	04/12/2010 12:00 AM	CHLORIDE		4.0	MG/L		
	11/03/2009 12:00 AM	TEMPERATURE FIELD		44.4	F		
	11/03/2009 12:00 AM	CONDUCTIVITY, UMHOS/CM @ 25C		136	US/CM@25°C		
	11/03/2009 12:00 AM	NITROGEN NH3-N DISS		<0.01	MG/L		

Monitoring Station

Station ID 10034498
Station Name Trego Lake - Upstream

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Sample Results

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
	11/03/2009 12:00 AM	NITROGEN KJELDAHL TOTAL		0.32	MG/L		
	11/03/2009 12:00 AM	NITROGEN NO3+NO2 DISS (AS N)		0.18	MG/L		
	11/03/2009 12:00 AM	PHOSPHORUS TOTAL		0.026	MG/L		
	11/03/2009 12:00 AM	PHOSPHATE ORTHO DISS		0.028	MG/L		
	11/03/2009 12:00 AM	CHLORIDE		3.7	MG/L		
	11/03/2009 12:00 AM	SECCHI DEPTH - FEET		9.25	FEET		
	11/03/2008 12:00 AM	SECCHI DEPTH - FEET		10	FEET		
	05/05/2008 12:00 AM	SECCHI DEPTH - FEET		3	FEET		
	04/17/2006 12:00 AM	SECCHI DEPTH - FEET		4.5	FEET		
	04/19/2005 12:00 AM	SECCHI DEPTH - FEET		5.5	FEET		

Monitoring Station

Station ID 10022021
Station Name Namekagon River At New Sth 053

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Sample Results

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
NOR Watershed Rotation Sites (Non_LTT)	09/09/2008 10:10 AM	TEMPERATURE FIELD		12.3	C		
NOR Watershed Rotation Sites (Non_LTT)	09/09/2008 10:10 AM	CLOUD COVER		5	%		
NOR Watershed Rotation Sites (Non_LTT)	09/09/2008 10:10 AM	CONDUCTIVITY FIELD		184	UMHOS/CM		
NOR Watershed Rotation Sites (Non_LTT)	09/09/2008 10:10 AM	TEMPERATURE AT LAB		ICED	C		
NOR Watershed Rotation Sites (Non_LTT)	09/09/2008 10:10 AM	DISSOLVED OXYGEN FIELD		9.5	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	09/09/2008 10:10 AM	PH FIELD		8.0	SU		
NOR Watershed Rotation Sites (Non_LTT)	09/09/2008 10:10 AM	RESIDUE TOTAL NFLT (TOTAL SUSPENDED SOLIDS)		*ND	MG/L		MATRIX DUPLICATE QC EXCEEDED
NOR Watershed Rotation Sites (Non_LTT)	09/09/2008 10:10 AM	NITROGEN NH3-N DISS		*ND	MG/L		MATRIX SPIKE QC EXCEEDED BY 1.2%
NOR Watershed Rotation Sites (Non_LTT)	09/09/2008 10:10 AM	NITROGEN KJELDAHL TOTAL		0.22	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	09/09/2008 10:10 AM	NITROGEN NO3+NO2 DISS (AS N)		0.080	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	09/09/2008 10:10 AM	PHOSPHORUS TOTAL		0.014	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	09/09/2008 10:10 AM	TRANSPARENCY TUBE MEASUREMENT		>120.0	CM		
2018 CWA Impairment Assessments	09/09/2008 12:00 AM	River Stream 10 Year Median TP Assessment Value		28.5	UG/L		
2018 CWA Impairment Assessments	09/09/2008 12:00 AM	River Stream 10 Year TP Upper 90% Percentile Assessment Value		32.757	UG/L		
2018 CWA Impairment Assessments	09/09/2008 12:00 AM	River Stream 10 Year TP Lower 90% Percentile Assessment Value		21.156	UG/L		
NOR Watershed Rotation Sites (Non_LTT)	08/11/2008 10:45 AM	TEMPERATURE FIELD		18.7	C		
NOR Watershed Rotation Sites (Non_LTT)	08/11/2008 10:45 AM	AMBIENT AIR TEMPERATURE - FIELD		26.0	C		
NOR Watershed Rotation Sites (Non_LTT)	08/11/2008 10:45 AM	CLOUD COVER		10	%		
NOR Watershed Rotation Sites (Non_LTT)	08/11/2008 10:45 AM	CONDUCTIVITY FIELD		181	UMHOS/CM		
NOR Watershed Rotation Sites (Non_LTT)	08/11/2008 10:45 AM	TEMPERATURE AT LAB		ICED	C		
NOR Watershed Rotation Sites (Non_LTT)	08/11/2008 10:45 AM	DISSOLVED OXYGEN FIELD		8.5	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	08/11/2008 10:45 AM	PH FIELD		8.1	SU		
NOR Watershed Rotation Sites (Non_LTT)	08/11/2008 10:45 AM	RESIDUE TOTAL NFLT (TOTAL SUSPENDED SOLIDS)		2.	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	08/11/2008 10:45 AM	NITROGEN NH3-N DISS		ND	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	08/11/2008 10:45 AM	NITROGEN KJELDAHL TOTAL		0.22	MG/L		

Monitoring Station

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Station Name Namekagon River At New Sth 053

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
NOR Watershed Rotation Sites (Non_LTT)	08/11/2008 10:45 AM	NITROGEN NO3+NO2 DISS (AS N)		0.076	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	08/11/2008 10:45 AM	PHOSPHORUS TOTAL		0.023	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	08/11/2008 10:45 AM	TRANSPARENCY TUBE MEASUREMENT		>120.0	CM		
NOR Watershed Rotation Sites (Non_LTT)	07/14/2008 01:00 PM	TEMPERATURE FIELD		20.0	C		
NOR Watershed Rotation Sites (Non_LTT)	07/14/2008 01:00 PM	AMBIENT AIR TEMPERATURE - FIELD		25.5	C		
NOR Watershed Rotation Sites (Non_LTT)	07/14/2008 01:00 PM	CLOUD COVER		15	%		
NOR Watershed Rotation Sites (Non_LTT)	07/14/2008 01:00 PM	CONDUCTIVITY FIELD		175	UMHOS/CM		
NOR Watershed Rotation Sites (Non_LTT)	07/14/2008 01:00 PM	TEMPERATURE AT LAB		ICED	C		
NOR Watershed Rotation Sites (Non_LTT)	07/14/2008 01:00 PM	DISSOLVED OXYGEN FIELD		9.4	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	07/14/2008 01:00 PM	RESIDUE TOTAL NFLT (TOTAL SUSPENDED SOLIDS)		3.	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	07/14/2008 01:00 PM	NITROGEN NH3-N DISS		ND	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	07/14/2008 01:00 PM	NITROGEN KJELDAHL TOTAL		0.43	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	07/14/2008 01:00 PM	NITROGEN NO3+NO2 DISS (AS N)		0.087	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	07/14/2008 01:00 PM	PHOSPHORUS TOTAL		0.025	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	07/14/2008 01:00 PM	TRANSPARENCY TUBE MEASUREMENT		>120.0	CM		
NOR Watershed Rotation Sites (Non_LTT)	06/16/2008 11:30 AM	TEMPERATURE FIELD		17.3	C		
NOR Watershed Rotation Sites (Non_LTT)	06/16/2008 11:30 AM	AMBIENT AIR TEMPERATURE - FIELD		19.0	C		
NOR Watershed Rotation Sites (Non_LTT)	06/16/2008 11:30 AM	CLOUD COVER		85	%		
NOR Watershed Rotation Sites (Non_LTT)	06/16/2008 11:30 AM	CONDUCTIVITY FIELD		135	UMHOS/CM		
NOR Watershed Rotation Sites (Non_LTT)	06/16/2008 11:30 AM	TEMPERATURE AT LAB		ICED	C		
NOR Watershed Rotation Sites (Non_LTT)	06/16/2008 11:30 AM	DISSOLVED OXYGEN FIELD		7.9	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	06/16/2008 11:30 AM	PH FIELD		7.3	SU		
NOR Watershed Rotation Sites (Non_LTT)	06/16/2008 11:30 AM	RESIDUE TOTAL NFLT (TOTAL SUSPENDED SOLIDS)		9.	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	06/16/2008 11:30 AM	NITROGEN NH3-N DISS		0.026	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	06/16/2008 11:30 AM	NITROGEN KJELDAHL TOTAL		0.70	MG/L		

Monitoring Station

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Sample Results

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
NOR Watershed Rotation Sites (Non_LTT)	06/16/2008 11:30 AM	NITROGEN NO3+NO2 DISS (AS N)		0.089	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	06/16/2008 11:30 AM	PHOSPHORUS TOTAL		0.038	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	06/16/2008 11:30 AM	TRANSPARENCY TUBE MEASUREMENT		>95.0	CM		
NOR Watershed Rotation Sites (Non_LTT)	05/19/2008 10:20 AM	TEMPERATURE FIELD		11.7	C		
NOR Watershed Rotation Sites (Non_LTT)	05/19/2008 10:20 AM	AMBIENT AIR TEMPERATURE - FIELD		13.0	C		
NOR Watershed Rotation Sites (Non_LTT)	05/19/2008 10:20 AM	CLOUD COVER		100	%		
NOR Watershed Rotation Sites (Non_LTT)	05/19/2008 10:20 AM	CONDUCTIVITY FIELD		152	UMHOS/CM		
NOR Watershed Rotation Sites (Non_LTT)	05/19/2008 10:20 AM	TEMPERATURE AT LAB		ICED	C		
NOR Watershed Rotation Sites (Non_LTT)	05/19/2008 10:20 AM	DISSOLVED OXYGEN FIELD		11.2	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	05/19/2008 10:20 AM	PH FIELD		7.8	SU		
NOR Watershed Rotation Sites (Non_LTT)	05/19/2008 10:20 AM	RESIDUE TOTAL NFLT (TOTAL SUSPENDED SOLIDS)		*<4	MG/L		LOW VOLUME
NOR Watershed Rotation Sites (Non_LTT)	05/19/2008 10:20 AM	NITROGEN NH3-N DISS		0.023	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	05/19/2008 10:20 AM	NITROGEN KJELDAHL TOTAL		*0.64	MG/L		MATRIX SPIKE QC EXCEEDED
NOR Watershed Rotation Sites (Non_LTT)	05/19/2008 10:20 AM	NITROGEN NO3+NO2 DISS (AS N)		0.222	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	05/19/2008 10:20 AM	PHOSPHORUS TOTAL		0.032	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	05/19/2008 10:20 AM	TRANSPARENCY TUBE MEASUREMENT		>120.0	CM		
NOR Watershed Rotation Sites (Non_LTT)	04/21/2008 11:05 AM	TEMPERATURE FIELD		8.9	C		
NOR Watershed Rotation Sites (Non_LTT)	04/21/2008 11:05 AM	AMBIENT AIR TEMPERATURE - FIELD		17.0	C		
NOR Watershed Rotation Sites (Non_LTT)	04/21/2008 11:05 AM	CLOUD COVER		60	%		
NOR Watershed Rotation Sites (Non_LTT)	04/21/2008 11:05 AM	CONDUCTIVITY FIELD		109	UMHOS/CM		
NOR Watershed Rotation Sites (Non_LTT)	04/21/2008 11:05 AM	TEMPERATURE AT LAB		ICED	C		
NOR Watershed Rotation Sites (Non_LTT)	04/21/2008 11:05 AM	DISSOLVED OXYGEN FIELD		11.1	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	04/21/2008 11:05 AM	PH FIELD		7.5	SU		
NOR Watershed Rotation Sites (Non_LTT)	04/21/2008 11:05 AM	RESIDUE TOTAL NFLT (TOTAL SUSPENDED SOLIDS)		7.	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	04/21/2008 11:05 AM	NITROGEN NH3-N DISS		0.016	MG/L		

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
NOR Watershed Rotation Sites (Non_LTT)	04/21/2008 11:05 AM	NITROGEN KJELDAHL TOTAL		0.63	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	04/21/2008 11:05 AM	NITROGEN NO3+NO2 DISS (AS N)		0.205	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	04/21/2008 11:05 AM	PHOSPHORUS TOTAL		0.050	MG/L		LRB EXCEEDS LOD CRITERIA BY 0.00067 MG/L
NOR Watershed Rotation Sites (Non_LTT)	04/21/2008 11:05 AM	TRANSPARENCY TUBE MEASUREMENT		>120.0	CM		
NOR Watershed Rotation Sites (Non_LTT)	03/18/2008 11:40 AM	TEMPERATURE FIELD		0.07	C		
NOR Watershed Rotation Sites (Non_LTT)	03/18/2008 11:40 AM	CLOUD COVER		100	%		
NOR Watershed Rotation Sites (Non_LTT)	03/18/2008 11:40 AM	CONDUCTIVITY FIELD		183	UMHOS/CM		
NOR Watershed Rotation Sites (Non_LTT)	03/18/2008 11:40 AM	TEMPERATURE AT LAB		ICED	C		
NOR Watershed Rotation Sites (Non_LTT)	03/18/2008 11:40 AM	DISSOLVED OXYGEN FIELD		14.3	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	03/18/2008 11:40 AM	PH FIELD		7.5	SU		
NOR Watershed Rotation Sites (Non_LTT)	03/18/2008 11:40 AM	RESIDUE TOTAL NFLT (TOTAL SUSPENDED SOLIDS)		ND	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	03/18/2008 11:40 AM	NITROGEN NH3-N DISS		ND	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	03/18/2008 11:40 AM	NITROGEN KJELDAHL TOTAL		ND	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	03/18/2008 11:40 AM	NITROGEN NO3+NO2 DISS (AS N)		0.345	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	03/18/2008 11:40 AM	PHOSPHORUS TOTAL		0.020	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	03/18/2008 11:40 AM	TRANSPARENCY TUBE MEASUREMENT		>120.0	CM		
NOR Watershed Rotation Sites (Non_LTT)	02/25/2008 11:30 AM	TEMPERATURE FIELD		0.04	C		
NOR Watershed Rotation Sites (Non_LTT)	02/25/2008 11:30 AM	CLOUD COVER		85	%		
NOR Watershed Rotation Sites (Non_LTT)	02/25/2008 11:30 AM	CONDUCTIVITY FIELD		189	UMHOS/CM		
NOR Watershed Rotation Sites (Non_LTT)	02/25/2008 11:30 AM	TEMPERATURE AT LAB		ICED	C		
NOR Watershed Rotation Sites (Non_LTT)	02/25/2008 11:30 AM	DISSOLVED OXYGEN FIELD		14.1	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	02/25/2008 11:30 AM	PH FIELD		7.4	SU		
NOR Watershed Rotation Sites (Non_LTT)	02/25/2008 11:30 AM	RESIDUE TOTAL NFLT (TOTAL SUSPENDED SOLIDS)		2.	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	02/25/2008 11:30 AM	NITROGEN NH3-N DISS		0.033	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	02/25/2008 11:30 AM	NITROGEN KJELDAHL TOTAL		ND	MG/L		

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
NOR Watershed Rotation Sites (Non_LTT)	02/25/2008 11:30 AM	NITROGEN NO3+NO2 DISS (AS N)		0.375	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	02/25/2008 11:30 AM	PHOSPHORUS TOTAL		0.021	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	02/25/2008 11:30 AM	TRANSPARENCY TUBE MEASUREMENT		>120.0	CM		
NOR Watershed Rotation Sites (Non_LTT)	01/16/2008 11:30 AM	TEMPERATURE FIELD		0.05	C		
NOR Watershed Rotation Sites (Non_LTT)	01/16/2008 11:30 AM	AMBIENT AIR TEMPERATURE - FIELD		-5.0	C		
NOR Watershed Rotation Sites (Non_LTT)	01/16/2008 11:30 AM	CLOUD COVER		100	%		
NOR Watershed Rotation Sites (Non_LTT)	01/16/2008 11:30 AM	CONDUCTIVITY FIELD		186	UMHOS/CM		
NOR Watershed Rotation Sites (Non_LTT)	01/16/2008 11:30 AM	TEMPERATURE AT LAB		ICED	C		
NOR Watershed Rotation Sites (Non_LTT)	01/16/2008 11:30 AM	DISSOLVED OXYGEN FIELD		14.6	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	01/16/2008 11:30 AM	PH FIELD		7.3	SU		
NOR Watershed Rotation Sites (Non_LTT)	01/16/2008 11:30 AM	RESIDUE TOTAL NFLT (TOTAL SUSPENDED SOLIDS)		2.	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	01/16/2008 11:30 AM	NITROGEN NH3-N DISS		0.018	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	01/16/2008 11:30 AM	NITROGEN KJELDAHL TOTAL		0.39	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	01/16/2008 11:30 AM	NITROGEN NO3+NO2 DISS (AS N)		0.349	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	01/16/2008 11:30 AM	PHOSPHORUS TOTAL		0.024	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	01/16/2008 11:30 AM	TRANSPARENCY TUBE MEASUREMENT		>120.0	CM		
NOR Watershed Rotation Sites (Non_LTT)	12/18/2007 10:30 AM	TEMPERATURE FIELD		0.06	C		
NOR Watershed Rotation Sites (Non_LTT)	12/18/2007 10:30 AM	AMBIENT AIR TEMPERATURE - FIELD		-5.0	C		
NOR Watershed Rotation Sites (Non_LTT)	12/18/2007 10:30 AM	CLOUD COVER		100	%		
NOR Watershed Rotation Sites (Non_LTT)	12/18/2007 10:30 AM	CONDUCTIVITY FIELD		186	UMHOS/CM		
NOR Watershed Rotation Sites (Non_LTT)	12/18/2007 10:30 AM	TEMPERATURE AT LAB		ICED	C		
NOR Watershed Rotation Sites (Non_LTT)	12/18/2007 10:30 AM	DISSOLVED OXYGEN FIELD		10.5	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	12/18/2007 10:30 AM	PH FIELD		7.1	SU		
NOR Watershed Rotation Sites (Non_LTT)	12/18/2007 10:30 AM	RESIDUE TOTAL NFLT (TOTAL SUSPENDED SOLIDS)		ND	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	12/18/2007 10:30 AM	NITROGEN NH3-N DISS		0.073	MG/L		

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Project	Date/Time	DNR Parameter	Species	Result	Units	Present/Absent	Lab Comments
NOR Watershed Rotation Sites (Non_LTT)	12/18/2007 10:30 AM	NITROGEN KJELDAHL TOTAL		0.21	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	12/18/2007 10:30 AM	NITROGEN NO3+NO2 DISS (AS N)		0.346	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	12/18/2007 10:30 AM	PHOSPHORUS TOTAL		0.019	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	12/18/2007 10:30 AM	TRANSPARENCY TUBE MEASUREMENT		>120.0	CM		
NOR Watershed Rotation Sites (Non_LTT)	11/13/2007 10:20 AM	TEMPERATURE FIELD		2.9	C		
NOR Watershed Rotation Sites (Non_LTT)	11/13/2007 10:20 AM	CLOUD COVER		90	%		
NOR Watershed Rotation Sites (Non_LTT)	11/13/2007 10:20 AM	CONDUCTIVITY FIELD		169	UMHOS/CM		
NOR Watershed Rotation Sites (Non_LTT)	11/13/2007 10:20 AM	TEMPERATURE AT LAB		ICED	C		
NOR Watershed Rotation Sites (Non_LTT)	11/13/2007 10:20 AM	DISSOLVED OXYGEN FIELD		13.1	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	11/13/2007 10:20 AM	PH FIELD		7.6	SU		
NOR Watershed Rotation Sites (Non_LTT)	11/13/2007 10:20 AM	RESIDUE TOTAL NFLT (TOTAL SUSPENDED SOLIDS)		2.	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	11/13/2007 10:20 AM	NITROGEN NH3-N DISS		ND	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	11/13/2007 10:20 AM	NITROGEN KJELDAHL TOTAL		0.31	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	11/13/2007 10:20 AM	NITROGEN NO3+NO2 DISS (AS N)		0.217	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	11/13/2007 10:20 AM	PHOSPHORUS TOTAL		0.017	MG/L		
NOR Watershed Rotation Sites (Non_LTT)	11/13/2007 10:20 AM	TRANSPARENCY TUBE MEASUREMENT		>120.0	CM		
	10/22/2007 10:30 AM	TEMPERATURE FIELD		7.5	C		
	10/22/2007 10:30 AM	CLOUD COVER		60	%		
	10/22/2007 10:30 AM	CONDUCTIVITY FIELD		133	UMHOS/CM		
	10/22/2007 10:30 AM	TEMPERATURE AT LAB		ICED	C		
	10/22/2007 10:30 AM	DISSOLVED OXYGEN FIELD		10.3	MG/L		
	10/22/2007 10:30 AM	PH FIELD		6.9	SU		
	10/22/2007 10:30 AM	RESIDUE TOTAL NFLT (TOTAL SUSPENDED SOLIDS)		3.	MG/L		
	10/22/2007 10:30 AM	NITROGEN NH3-N DISS		ND	MG/L		
	10/22/2007 10:30 AM	NITROGEN KJELDAHL TOTAL		0.63	MG/L		

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	10/22/2007 10:30 AM	NITROGEN NO3+NO2 DISS (AS N)		0.157	MG/L		
	10/22/2007 10:30 AM	PHOSPHORUS TOTAL		0.034	MG/L		
	10/22/2007 10:30 AM	TRANSPARENCY TUBE MEASUREMENT		>120.0	CM		

APPENDIX 4.4.1.1-1 WDNR Hayward Fish Survey Data

Visit Type	Gear	Sample Date	Fish Data Seq No	Species	Number of Fish	Total No.	% of Total
NETTING	FYKE NET	13-Jun-03	2107286	BLACK BULLHEAD	1		
NETTING	FYKE NET	13-Jun-03	2107323	BLACK BULLHEAD	1		
NETTING	FYKE NET	14-Jun-03	2107332	BLACK BULLHEAD	1		
NETTING	FYKE NET	14-Jun-03	2107339	BLACK BULLHEAD	1		
NETTING	FYKE NET	14-Jun-03	2107344	BLACK BULLHEAD	1		
NETTING	FYKE NET	15-Jun-03	2107366	BLACK BULLHEAD	1		
NETTING	FYKE NET	15-Jun-03	2107372	BLACK BULLHEAD	1		
NETTING	FYKE NET	15-Jun-03	2107378	BLACK BULLHEAD	1		
NETTING	MINI FYKE NET '	15-Jul-03	2115282	BLACK BULLHEAD	1		
NETTING	MINI FYKE NET '	15-Jul-03	2115283	BLACK BULLHEAD	1		
NETTING	MINI FYKE NET '	15-Jul-03	2115284	BLACK BULLHEAD	1		
NETTING	MINI FYKE NET '	16-Jul-03	2115315	BLACK BULLHEAD	1		
NETTING	FYKE NET	8-Apr-05	4002727	BLACK BULLHEAD	1		
NETTING	FYKE NET	8-Apr-05	4002728	BLACK BULLHEAD	1		
NETTING	FYKE NET	9-Apr-05	4002733	BLACK BULLHEAD	1		
NETTING	FYKE NET	11-Apr-05	4002766	BLACK BULLHEAD	1		
ELECTROFI:	BOOM SHOCKEI	4-Oct-07	6057501	BLACK BULLHEAD	1		
NETTING	FYKE NET	24-Apr-08	6774508	BLACK BULLHEAD	9		
NETTING	FYKE NET	25-Apr-08	6774669	BLACK BULLHEAD	5	31	0.36%
NETTING	FYKE NET	28-May-02	2088790	BLACK CRAPPIE	1		
NETTING	FYKE NET	28-May-02	2088791	BLACK CRAPPIE	1		
NETTING	FYKE NET	28-May-02	2088792	BLACK CRAPPIE	1		
NETTING	FYKE NET	28-May-02	2088793	BLACK CRAPPIE	3		
NETTING	FYKE NET	28-May-02	2088794	BLACK CRAPPIE	1		
ELECTROFI:	BOOM SHOCKEI	26-Sep-02	13422157	BLACK CRAPPIE	45		
NETTING	FYKE NET	8-Jun-03	2107208	BLACK CRAPPIE	3		
NETTING	FYKE NET	8-Jun-03	2107232	BLACK CRAPPIE	1		
NETTING	FYKE NET	8-Jun-03	2107233	BLACK CRAPPIE	2		
NETTING	FYKE NET	9-Jun-03	2107240	BLACK CRAPPIE	1		
NETTING	FYKE NET	9-Jun-03	2107267	BLACK CRAPPIE	2		
NETTING	FYKE NET	9-Jun-03	2107268	BLACK CRAPPIE	2		
NETTING	FYKE NET	10-Jun-03	2107277	BLACK CRAPPIE	1		
NETTING	FYKE NET	10-Jun-03	2107281	BLACK CRAPPIE	1		
NETTING	FYKE NET	13-Jun-03	2107291	BLACK CRAPPIE	1		
NETTING	FYKE NET	13-Jun-03	2107318	BLACK CRAPPIE	1		
NETTING	FYKE NET	14-Jun-03	2107337	BLACK CRAPPIE	2		
NETTING	FYKE NET	14-Jun-03	2107343	BLACK CRAPPIE	1		
NETTING	FYKE NET	15-Jun-03	2104373	BLACK CRAPPIE	9		
NETTING	FYKE NET	15-Jun-03	2104374	BLACK CRAPPIE	2		
NETTING	FYKE NET	15-Jun-03	2104375	BLACK CRAPPIE	1		
NETTING	FYKE NET	15-Jun-03	2107371	BLACK CRAPPIE	1		
NETTING	FYKE NET	15-Jun-03	2107377	BLACK CRAPPIE	1		
NETTING	MINI FYKE NET '	15-Jul-03	2115285	BLACK CRAPPIE	1		
NETTING	MINI FYKE NET '	15-Jul-03	2115286	BLACK CRAPPIE	1		
NETTING	MINI FYKE NET '	16-Jul-03	2115306	BLACK CRAPPIE	19		
NETTING	MINI FYKE NET '	16-Jul-03	2115307	BLACK CRAPPIE	1		
NETTING	MINI FYKE NET '	16-Jul-03	2115308	BLACK CRAPPIE	1		
ELECTROFI:	BOOM SHOCKEI	1-Oct-03	2149513	BLACK CRAPPIE	2		
ELECTROFI:	BOOM SHOCKEI	1-Oct-03	2149514	BLACK CRAPPIE	1		
ELECTROFI:	BOOM SHOCKEI	1-Oct-03	2149515	BLACK CRAPPIE	1		
ELECTROFI:	BOOM SHOCKEI	1-Oct-03	2149516	BLACK CRAPPIE	1		
ELECTROFI:	BOOM SHOCKEI	1-Oct-03	2149517	BLACK CRAPPIE	1		
ELECTROFI:	BOOM SHOCKEI	1-Oct-03	2149518	BLACK CRAPPIE	1		
ELECTROFI:	BOOM SHOCKEI	1-Oct-03	2149519	BLACK CRAPPIE	1		
ELECTROFI:	BOOM SHOCKEI	1-Oct-03	2149520	BLACK CRAPPIE	1		
ELECTROFI:	BOOM SHOCKEI	1-Oct-03	2149521	BLACK CRAPPIE	2		
ELECTROFI:	BOOM SHOCKEI	1-Oct-03	2149522	BLACK CRAPPIE	1		
ELECTROFI:	BOOM SHOCKEI	1-Oct-03	2149572	BLACK CRAPPIE	1		
ELECTROFI:	BOOM SHOCKEI	1-Oct-03	2149573	BLACK CRAPPIE	1		
ELECTROFI:	BOOM SHOCKEI	1-Oct-03	2149574	BLACK CRAPPIE	1		

ELECTROFI:	BOOM SHOCKEI	1-Oct-03	2149575	BLACK CRAPPIE	2
NETTING	FYKE NET	9-Apr-05	4002732	BLACK CRAPPIE	1
NETTING	FYKE NET	11-Apr-05	4002769	BLACK CRAPPIE	3
OTHER	HOOK AND LINE	11-May-05	2740678	BLACK CRAPPIE	1
OTHER	HOOK AND LINE	11-May-05	2740679	BLACK CRAPPIE	2
ELECTROFI:	BOOM SHOCKEI	4-Oct-07	6057460	BLACK CRAPPIE	1
ELECTROFI:	BOOM SHOCKEI	4-Oct-07	6057461	BLACK CRAPPIE	2
ELECTROFI:	BOOM SHOCKEI	4-Oct-07	6057462	BLACK CRAPPIE	3
ELECTROFI:	BOOM SHOCKEI	4-Oct-07	6057463	BLACK CRAPPIE	1
ELECTROFI:	BOOM SHOCKEI	4-Oct-07	6057464	BLACK CRAPPIE	1
ELECTROFI:	BOOM SHOCKEI	4-Oct-07	6057465	BLACK CRAPPIE	4
ELECTROFI:	BOOM SHOCKEI	4-Oct-07	6057466	BLACK CRAPPIE	3
ELECTROFI:	BOOM SHOCKEI	4-Oct-07	6057467	BLACK CRAPPIE	2
ELECTROFI:	BOOM SHOCKEI	4-Oct-07	6057468	BLACK CRAPPIE	7
ELECTROFI:	BOOM SHOCKEI	4-Oct-07	6057469	BLACK CRAPPIE	5
ELECTROFI:	BOOM SHOCKEI	4-Oct-07	6057470	BLACK CRAPPIE	1
ELECTROFI:	BOOM SHOCKEI	4-Oct-07	6057588	BLACK CRAPPIE	1
ELECTROFI:	BOOM SHOCKEI	4-Oct-07	6057589	BLACK CRAPPIE	1
ELECTROFI:	BOOM SHOCKEI	4-Oct-07	6057590	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-08	6774382	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-08	6774383	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-08	6774384	BLACK CRAPPIE	2
NETTING	FYKE NET	24-Apr-08	6774385	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-08	6774386	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-08	6774387	BLACK CRAPPIE	2
NETTING	FYKE NET	24-Apr-08	6774388	BLACK CRAPPIE	2
NETTING	FYKE NET	24-Apr-08	6774389	BLACK CRAPPIE	2
NETTING	FYKE NET	24-Apr-08	6774390	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-08	6774391	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-08	6774392	BLACK CRAPPIE	2
NETTING	FYKE NET	24-Apr-08	6774393	BLACK CRAPPIE	2
NETTING	FYKE NET	24-Apr-08	6774394	BLACK CRAPPIE	2
NETTING	FYKE NET	24-Apr-08	6774395	BLACK CRAPPIE	3
NETTING	FYKE NET	24-Apr-08	6774396	BLACK CRAPPIE	5
NETTING	FYKE NET	24-Apr-08	6774397	BLACK CRAPPIE	2
NETTING	FYKE NET	24-Apr-08	6774398	BLACK CRAPPIE	2
NETTING	FYKE NET	24-Apr-08	6774399	BLACK CRAPPIE	3
NETTING	FYKE NET	24-Apr-08	6774400	BLACK CRAPPIE	3
NETTING	FYKE NET	24-Apr-08	6774401	BLACK CRAPPIE	2
NETTING	FYKE NET	24-Apr-08	6774402	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-08	6774403	BLACK CRAPPIE	6
NETTING	FYKE NET	24-Apr-08	6774404	BLACK CRAPPIE	3
NETTING	FYKE NET	24-Apr-08	6774405	BLACK CRAPPIE	8
NETTING	FYKE NET	24-Apr-08	6774406	BLACK CRAPPIE	5
NETTING	FYKE NET	24-Apr-08	6774407	BLACK CRAPPIE	7
NETTING	FYKE NET	24-Apr-08	6774408	BLACK CRAPPIE	4
NETTING	FYKE NET	24-Apr-08	6774409	BLACK CRAPPIE	6
NETTING	FYKE NET	24-Apr-08	6774410	BLACK CRAPPIE	4
NETTING	FYKE NET	24-Apr-08	6774411	BLACK CRAPPIE	5
NETTING	FYKE NET	24-Apr-08	6774412	BLACK CRAPPIE	2
NETTING	FYKE NET	24-Apr-08	6774413	BLACK CRAPPIE	3
NETTING	FYKE NET	24-Apr-08	6774414	BLACK CRAPPIE	3
NETTING	FYKE NET	24-Apr-08	6774415	BLACK CRAPPIE	3
NETTING	FYKE NET	24-Apr-08	6774416	BLACK CRAPPIE	3
NETTING	FYKE NET	24-Apr-08	6774417	BLACK CRAPPIE	3
NETTING	FYKE NET	24-Apr-08	6774418	BLACK CRAPPIE	2
NETTING	FYKE NET	24-Apr-08	6774419	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-08	6774420	BLACK CRAPPIE	3
NETTING	FYKE NET	24-Apr-08	6774421	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-08	6774422	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-08	6774423	BLACK CRAPPIE	1

NETTING	FYKE NET	24-Apr-08	6774424	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-08	6774425	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-08	6774426	BLACK CRAPPIE	1
NETTING	FYKE NET	25-Apr-08	6774553	BLACK CRAPPIE	1
NETTING	FYKE NET	25-Apr-08	6774554	BLACK CRAPPIE	1
NETTING	FYKE NET	25-Apr-08	6774555	BLACK CRAPPIE	1
NETTING	FYKE NET	25-Apr-08	6774556	BLACK CRAPPIE	1
NETTING	FYKE NET	25-Apr-08	6774557	BLACK CRAPPIE	2
NETTING	FYKE NET	25-Apr-08	6774558	BLACK CRAPPIE	2
NETTING	FYKE NET	25-Apr-08	6774559	BLACK CRAPPIE	1
NETTING	FYKE NET	25-Apr-08	6774560	BLACK CRAPPIE	7
NETTING	FYKE NET	25-Apr-08	6774561	BLACK CRAPPIE	2
NETTING	FYKE NET	25-Apr-08	6774562	BLACK CRAPPIE	4
NETTING	FYKE NET	25-Apr-08	6774563	BLACK CRAPPIE	1
NETTING	FYKE NET	25-Apr-08	6774564	BLACK CRAPPIE	3
NETTING	FYKE NET	25-Apr-08	6774565	BLACK CRAPPIE	1
NETTING	FYKE NET	25-Apr-08	6774566	BLACK CRAPPIE	4
NETTING	FYKE NET	25-Apr-08	6774567	BLACK CRAPPIE	4
NETTING	FYKE NET	25-Apr-08	6774568	BLACK CRAPPIE	2
NETTING	FYKE NET	25-Apr-08	6774569	BLACK CRAPPIE	1
NETTING	FYKE NET	25-Apr-08	6774570	BLACK CRAPPIE	3
NETTING	FYKE NET	25-Apr-08	6774571	BLACK CRAPPIE	2
NETTING	FYKE NET	25-Apr-08	6774572	BLACK CRAPPIE	3
NETTING	FYKE NET	25-Apr-08	6774573	BLACK CRAPPIE	2
NETTING	FYKE NET	25-Apr-08	6774574	BLACK CRAPPIE	1
NETTING	FYKE NET	25-Apr-08	6774575	BLACK CRAPPIE	4
NETTING	FYKE NET	25-Apr-08	6774576	BLACK CRAPPIE	2
NETTING	FYKE NET	25-Apr-08	6774577	BLACK CRAPPIE	1
NETTING	FYKE NET	25-Apr-08	6774578	BLACK CRAPPIE	2
NETTING	FYKE NET	25-Apr-08	6774579	BLACK CRAPPIE	2
NETTING	FYKE NET	25-Apr-08	6774580	BLACK CRAPPIE	1
NETTING	FYKE NET	25-Apr-08	6774581	BLACK CRAPPIE	1
NETTING	FYKE NET	25-Apr-08	6774582	BLACK CRAPPIE	1
NETTING	FYKE NET	25-Apr-08	6774583	BLACK CRAPPIE	1
NETTING	FYKE NET	25-Apr-08	6774584	BLACK CRAPPIE	1
NETTING	FYKE NET	25-Apr-08	6774585	BLACK CRAPPIE	1
NETTING	FYKE NET	25-Apr-08	6774586	BLACK CRAPPIE	2
NETTING	FYKE NET	25-Apr-08	6774587	BLACK CRAPPIE	1
NETTING	FYKE NET	25-Apr-08	6774588	BLACK CRAPPIE	1
ELECTROFI:	BOOM SHOCKEI	9-Jun-08	6783330	BLACK CRAPPIE	1
ELECTROFI:	BOOM SHOCKEI	9-Jun-08	6783331	BLACK CRAPPIE	1
NETTING	FYKE NET	23-Apr-14	10379731	BLACK CRAPPIE	2
NETTING	FYKE NET	23-Apr-14	10379741	BLACK CRAPPIE	5
NETTING	FYKE NET	23-Apr-14	10379744	BLACK CRAPPIE	2
NETTING	FYKE NET	23-Apr-14	10379752	BLACK CRAPPIE	10
NETTING	FYKE NET	23-Apr-14	10379758	BLACK CRAPPIE	6
NETTING	FYKE NET	23-Apr-14	10379760	BLACK CRAPPIE	3
NETTING	FYKE NET	23-Apr-14	10379764	BLACK CRAPPIE	3
NETTING	FYKE NET	23-Apr-14	10379765	BLACK CRAPPIE	3
NETTING	FYKE NET	23-Apr-14	10379767	BLACK CRAPPIE	1
NETTING	FYKE NET	23-Apr-14	10379768	BLACK CRAPPIE	1
NETTING	FYKE NET	23-Apr-14	10379771	BLACK CRAPPIE	1
NETTING	FYKE NET	23-Apr-14	10379777	BLACK CRAPPIE	11
NETTING	FYKE NET	23-Apr-14	10379822	BLACK CRAPPIE	35
NETTING	FYKE NET	23-Apr-14	10379830	BLACK CRAPPIE	11
NETTING	FYKE NET	23-Apr-14	10379847	BLACK CRAPPIE	14
NETTING	FYKE NET	23-Apr-14	10379865	BLACK CRAPPIE	18
NETTING	FYKE NET	24-Apr-14	10379874	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10379875	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10379876	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10379877	BLACK CRAPPIE	1

NETTING	FYKE NET	24-Apr-14	10379878	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10379879	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10379880	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10379881	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10379882	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10379883	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10379935	BLACK CRAPPIE	89
NETTING	FYKE NET	24-Apr-14	10379943	BLACK CRAPPIE	15
NETTING	FYKE NET	24-Apr-14	10379953	BLACK CRAPPIE	23
NETTING	FYKE NET	24-Apr-14	10379965	BLACK CRAPPIE	15
NETTING	FYKE NET	24-Apr-14	10379973	BLACK CRAPPIE	2
NETTING	FYKE NET	24-Apr-14	10379981	BLACK CRAPPIE	3
NETTING	FYKE NET	24-Apr-14	10380022	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380023	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380024	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380025	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380026	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380027	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380028	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380029	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380030	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380031	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380032	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380033	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380034	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380035	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380036	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380037	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380038	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380039	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380040	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380041	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380042	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380043	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380044	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380045	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380046	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380047	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380048	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380049	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380050	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380051	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380052	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380053	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380054	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380055	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380056	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380057	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380058	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380059	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380060	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380120	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380121	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380122	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380123	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380124	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380125	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380126	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380127	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380128	BLACK CRAPPIE	1
NETTING	FYKE NET	24-Apr-14	10380129	BLACK CRAPPIE	1

NETTING	FYKE NET	24-Apr-14	10380130	BLACK CRAPPIE	1		
NETTING	FYKE NET	24-Apr-14	10380131	BLACK CRAPPIE	1		
NETTING	FYKE NET	24-Apr-14	10380132	BLACK CRAPPIE	1		
NETTING	FYKE NET	24-Apr-14	10380133	BLACK CRAPPIE	1		
NETTING	FYKE NET	24-Apr-14	10380134	BLACK CRAPPIE	1		
NETTING	FYKE NET	24-Apr-14	10380135	BLACK CRAPPIE	1		
NETTING	FYKE NET	24-Apr-14	10380136	BLACK CRAPPIE	1		
NETTING	FYKE NET	24-Apr-14	10380137	BLACK CRAPPIE	1		
NETTING	FYKE NET	24-Apr-14	10380138	BLACK CRAPPIE	1		
NETTING	FYKE NET	24-Apr-14	10380139	BLACK CRAPPIE	1		
NETTING	FYKE NET	24-Apr-14	10380140	BLACK CRAPPIE	1		
NETTING	FYKE NET	24-Apr-14	10380141	BLACK CRAPPIE	1		
NETTING	FYKE NET	24-Apr-14	10380142	BLACK CRAPPIE	1		
NETTING	FYKE NET	24-Apr-14	10380143	BLACK CRAPPIE	1		
NETTING	FYKE NET	24-Apr-14	10380144	BLACK CRAPPIE	1		
NETTING	FYKE NET	24-Apr-14	10380145	BLACK CRAPPIE	1		
NETTING	FYKE NET	24-Apr-14	10380146	BLACK CRAPPIE	1		
NETTING	FYKE NET	24-Apr-14	10380147	BLACK CRAPPIE	1		
NETTING	FYKE NET	24-Apr-14	10380148	BLACK CRAPPIE	1		
NETTING	FYKE NET	24-Apr-14	10380149	BLACK CRAPPIE	1		
NETTING	FYKE NET	24-Apr-14	10380150	BLACK CRAPPIE	1		
NETTING	FYKE NET	24-Apr-14	10380151	BLACK CRAPPIE	1		
NETTING	FYKE NET	24-Apr-14	10380152	BLACK CRAPPIE	1		
NETTING	FYKE NET	24-Apr-14	10380153	BLACK CRAPPIE	1		
NETTING	FYKE NET	24-Apr-14	10380154	BLACK CRAPPIE	1		
NETTING	FYKE NET	24-Apr-14	10380155	BLACK CRAPPIE	1		
NETTING	FYKE NET	24-Apr-14	10380156	BLACK CRAPPIE	1		
NETTING	FYKE NET	24-Apr-14	10380159	BLACK CRAPPIE	22		
NETTING	FYKE NET	25-Apr-14	10380169	BLACK CRAPPIE	1		
NETTING	FYKE NET	25-Apr-14	10380197	BLACK CRAPPIE	19		
NETTING	FYKE NET	25-Apr-14	10380204	BLACK CRAPPIE	10		
NETTING	FYKE NET	25-Apr-14	10380212	BLACK CRAPPIE	32		
NETTING	FYKE NET	25-Apr-14	10380219	BLACK CRAPPIE	26		
NETTING	FYKE NET	25-Apr-14	10380234	BLACK CRAPPIE	25		
NETTING	FYKE NET	25-Apr-14	10380254	BLACK CRAPPIE	9		
NETTING	FYKE NET	25-Apr-14	10380266	BLACK CRAPPIE	15		
NETTING	FYKE NET	25-Apr-14	10380268	BLACK CRAPPIE	11		
NETTING	FYKE NET	25-Apr-14	10380270	BLACK CRAPPIE	2		
NETTING	FYKE NET	25-Apr-14	10380271	BLACK CRAPPIE	27		
NETTING	FYKE NET	25-Apr-14	10380285	BLACK CRAPPIE	22		
NETTING	FYKE NET	25-Apr-14	10380299	BLACK CRAPPIE	50		
NETTING	FYKE NET	26-Apr-14	10380301	BLACK CRAPPIE	2		
NETTING	FYKE NET	26-Apr-14	10380307	BLACK CRAPPIE	6		
NETTING	FYKE NET	26-Apr-14	10380325	BLACK CRAPPIE	37		
NETTING	FYKE NET	26-Apr-14	10380333	BLACK CRAPPIE	3		
NETTING	FYKE NET	26-Apr-14	10380356	BLACK CRAPPIE	50		
NETTING	FYKE NET	26-Apr-14	10380379	BLACK CRAPPIE	27		
NETTING	FYKE NET	26-Apr-14	10380397	BLACK CRAPPIE	69		
NETTING	FYKE NET	26-Apr-14	10380405	BLACK CRAPPIE	7		
NETTING	FYKE NET	26-Apr-14	10380419	BLACK CRAPPIE	37		
NETTING	FYKE NET	26-Apr-14	10380430	BLACK CRAPPIE	17		
NETTING	FYKE NET	26-Apr-14	10380434	BLACK CRAPPIE	10		
NETTING	FYKE NET	26-Apr-14	10380437	BLACK CRAPPIE	14	1263	14.62%
ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223505	BLUEGILL	1		
ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223506	BLUEGILL	1		
ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223507	BLUEGILL	3		
ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223508	BLUEGILL	1		
ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223509	BLUEGILL	1		
ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223510	BLUEGILL	2		
ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223511	BLUEGILL	6		
ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223512	BLUEGILL	9		

ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223513	BLUEGILL	9
ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223514	BLUEGILL	1
ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223515	BLUEGILL	4
ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223516	BLUEGILL	1
ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223517	BLUEGILL	2
ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223518	BLUEGILL	2
NETTING	FYKE NET	28-May-02	2088771	BLUEGILL	4
NETTING	FYKE NET	28-May-02	2088772	BLUEGILL	2
NETTING	FYKE NET	28-May-02	2088773	BLUEGILL	2
NETTING	FYKE NET	28-May-02	2088774	BLUEGILL	2
NETTING	FYKE NET	28-May-02	2088775	BLUEGILL	1
NETTING	FYKE NET	28-May-02	2088776	BLUEGILL	3
NETTING	FYKE NET	28-May-02	2088777	BLUEGILL	1
NETTING	FYKE NET	28-May-02	2088778	BLUEGILL	1
NETTING	FYKE NET	28-May-02	2088779	BLUEGILL	1
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	13422155	BLUEGILL	19
NETTING	FYKE NET	8-Jun-03	2107200	BLUEGILL	3
NETTING	FYKE NET	8-Jun-03	2107205	BLUEGILL	46
NETTING	FYKE NET	8-Jun-03	2107210	BLUEGILL	1
NETTING	FYKE NET	8-Jun-03	2107211	BLUEGILL	1
NETTING	FYKE NET	8-Jun-03	2107212	BLUEGILL	1
NETTING	FYKE NET	8-Jun-03	2107213	BLUEGILL	7
NETTING	FYKE NET	8-Jun-03	2107214	BLUEGILL	2
NETTING	FYKE NET	8-Jun-03	2107215	BLUEGILL	2
NETTING	FYKE NET	8-Jun-03	2107216	BLUEGILL	10
NETTING	FYKE NET	8-Jun-03	2107217	BLUEGILL	8
NETTING	FYKE NET	8-Jun-03	2107218	BLUEGILL	10
NETTING	FYKE NET	8-Jun-03	2107219	BLUEGILL	4
NETTING	FYKE NET	8-Jun-03	2107220	BLUEGILL	1
NETTING	FYKE NET	8-Jun-03	2107221	BLUEGILL	1
NETTING	FYKE NET	9-Jun-03	2107237	BLUEGILL	14
NETTING	FYKE NET	9-Jun-03	2107243	BLUEGILL	1
NETTING	FYKE NET	9-Jun-03	2107244	BLUEGILL	1
NETTING	FYKE NET	9-Jun-03	2107245	BLUEGILL	5
NETTING	FYKE NET	9-Jun-03	2107246	BLUEGILL	2
NETTING	FYKE NET	9-Jun-03	2107247	BLUEGILL	5
NETTING	FYKE NET	9-Jun-03	2107248	BLUEGILL	15
NETTING	FYKE NET	9-Jun-03	2107249	BLUEGILL	11
NETTING	FYKE NET	9-Jun-03	2107250	BLUEGILL	6
NETTING	FYKE NET	9-Jun-03	2107251	BLUEGILL	1
NETTING	FYKE NET	10-Jun-03	2107272	BLUEGILL	4
NETTING	FYKE NET	10-Jun-03	2107274	BLUEGILL	22
NETTING	FYKE NET	10-Jun-03	2107278	BLUEGILL	21
NETTING	FYKE NET	13-Jun-03	2107283	BLUEGILL	1
NETTING	FYKE NET	13-Jun-03	2107288	BLUEGILL	20
NETTING	FYKE NET	13-Jun-03	2107294	BLUEGILL	23
NETTING	FYKE NET	13-Jun-03	2107308	BLUEGILL	7
NETTING	FYKE NET	13-Jun-03	2107309	BLUEGILL	3
NETTING	FYKE NET	13-Jun-03	2107310	BLUEGILL	2
NETTING	FYKE NET	13-Jun-03	2107311	BLUEGILL	1
NETTING	FYKE NET	13-Jun-03	2107312	BLUEGILL	2
NETTING	FYKE NET	13-Jun-03	2107313	BLUEGILL	5
NETTING	FYKE NET	13-Jun-03	2107314	BLUEGILL	11
NETTING	FYKE NET	13-Jun-03	2107315	BLUEGILL	6
NETTING	FYKE NET	13-Jun-03	2107316	BLUEGILL	4
NETTING	FYKE NET	13-Jun-03	2107317	BLUEGILL	1
NETTING	FYKE NET	14-Jun-03	2107330	BLUEGILL	58
NETTING	FYKE NET	14-Jun-03	2107335	BLUEGILL	60
NETTING	FYKE NET	14-Jun-03	2107340	BLUEGILL	73
NETTING	FYKE NET	15-Jun-03	2104359	BLUEGILL	8
NETTING	FYKE NET	15-Jun-03	2104360	BLUEGILL	4

NETTING	FYKE NET	15-Jun-03	2104361	BLUEGILL	2
NETTING	FYKE NET	15-Jun-03	2104362	BLUEGILL	7
NETTING	FYKE NET	15-Jun-03	2104363	BLUEGILL	1
NETTING	FYKE NET	15-Jun-03	2104364	BLUEGILL	4
NETTING	FYKE NET	15-Jun-03	2104365	BLUEGILL	10
NETTING	FYKE NET	15-Jun-03	2104366	BLUEGILL	26
NETTING	FYKE NET	15-Jun-03	2104367	BLUEGILL	17
NETTING	FYKE NET	15-Jun-03	2104368	BLUEGILL	10
NETTING	FYKE NET	15-Jun-03	2104369	BLUEGILL	4
NETTING	FYKE NET	15-Jun-03	2104370	BLUEGILL	2
NETTING	FYKE NET	15-Jun-03	2104371	BLUEGILL	1
NETTING	FYKE NET	15-Jun-03	2104372	BLUEGILL	1
NETTING	FYKE NET	15-Jun-03	2104425	BLUEGILL	77
NETTING	FYKE NET	15-Jun-03	2107363	BLUEGILL	100
NETTING	FYKE NET	15-Jun-03	2107368	BLUEGILL	96
NETTING	FYKE NET	15-Jun-03	2107374	BLUEGILL	180
NETTING	MINI FYKE NET '	15-Jul-03	2115216	BLUEGILL	2
NETTING	MINI FYKE NET '	15-Jul-03	2115217	BLUEGILL	1
NETTING	MINI FYKE NET '	15-Jul-03	2115218	BLUEGILL	2
NETTING	MINI FYKE NET '	15-Jul-03	2115219	BLUEGILL	4
NETTING	MINI FYKE NET '	15-Jul-03	2115220	BLUEGILL	2
NETTING	MINI FYKE NET '	15-Jul-03	2115221	BLUEGILL	4
NETTING	MINI FYKE NET '	15-Jul-03	2115222	BLUEGILL	7
NETTING	MINI FYKE NET '	15-Jul-03	2115223	BLUEGILL	4
NETTING	MINI FYKE NET '	15-Jul-03	2115224	BLUEGILL	10
NETTING	MINI FYKE NET '	15-Jul-03	2115225	BLUEGILL	2
NETTING	MINI FYKE NET '	15-Jul-03	2115226	BLUEGILL	3
NETTING	MINI FYKE NET '	15-Jul-03	2115227	BLUEGILL	1
NETTING	MINI FYKE NET '	15-Jul-03	2115228	BLUEGILL	1
NETTING	MINI FYKE NET '	15-Jul-03	2115229	BLUEGILL	1
NETTING	MINI FYKE NET '	15-Jul-03	2115230	BLUEGILL	1
NETTING	MINI FYKE NET '	15-Jul-03	2115231	BLUEGILL	1
NETTING	MINI FYKE NET '	15-Jul-03	2115235	BLUEGILL	3
NETTING	MINI FYKE NET '	15-Jul-03	2115236	BLUEGILL	1
NETTING	MINI FYKE NET '	15-Jul-03	2115239	BLUEGILL	3
NETTING	MINI FYKE NET '	15-Jul-03	2115240	BLUEGILL	1
NETTING	MINI FYKE NET '	15-Jul-03	2115247	BLUEGILL	1
NETTING	MINI FYKE NET '	15-Jul-03	2115248	BLUEGILL	8
NETTING	MINI FYKE NET '	15-Jul-03	2115249	BLUEGILL	3
NETTING	MINI FYKE NET '	15-Jul-03	2115250	BLUEGILL	1
NETTING	MINI FYKE NET '	15-Jul-03	2115251	BLUEGILL	1
NETTING	MINI FYKE NET '	15-Jul-03	2115252	BLUEGILL	1
NETTING	MINI FYKE NET '	15-Jul-03	2115253	BLUEGILL	2
NETTING	MINI FYKE NET '	15-Jul-03	2115254	BLUEGILL	2
NETTING	MINI FYKE NET '	15-Jul-03	2115255	BLUEGILL	1
NETTING	MINI FYKE NET '	15-Jul-03	2115261	BLUEGILL	6
NETTING	MINI FYKE NET '	15-Jul-03	2115262	BLUEGILL	8
NETTING	MINI FYKE NET '	15-Jul-03	2115263	BLUEGILL	4
NETTING	MINI FYKE NET '	15-Jul-03	2115264	BLUEGILL	6
NETTING	MINI FYKE NET '	15-Jul-03	2115265	BLUEGILL	10
NETTING	MINI FYKE NET '	15-Jul-03	2115266	BLUEGILL	16
NETTING	MINI FYKE NET '	15-Jul-03	2115267	BLUEGILL	19
NETTING	MINI FYKE NET '	15-Jul-03	2115268	BLUEGILL	6
NETTING	MINI FYKE NET '	15-Jul-03	2115269	BLUEGILL	7
NETTING	MINI FYKE NET '	15-Jul-03	2115270	BLUEGILL	1
NETTING	MINI FYKE NET '	16-Jul-03	2115287	BLUEGILL	9
NETTING	MINI FYKE NET '	16-Jul-03	2115288	BLUEGILL	5
NETTING	MINI FYKE NET '	16-Jul-03	2115289	BLUEGILL	138
NETTING	MINI FYKE NET '	16-Jul-03	2115290	BLUEGILL	9
NETTING	MINI FYKE NET '	16-Jul-03	2115291	BLUEGILL	6
NETTING	MINI FYKE NET '	16-Jul-03	2115292	BLUEGILL	15

NETTING	MINI FYKE NET \	16-Jul-03	2115293	BLUEGILL	7
NETTING	MINI FYKE NET \	16-Jul-03	2115294	BLUEGILL	6
NETTING	MINI FYKE NET \	16-Jul-03	2115295	BLUEGILL	11
NETTING	MINI FYKE NET \	16-Jul-03	2115296	BLUEGILL	21
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149507	BLUEGILL	2
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149508	BLUEGILL	3
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149509	BLUEGILL	9
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149510	BLUEGILL	5
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149511	BLUEGILL	5
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149512	BLUEGILL	1
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149565	BLUEGILL	1
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149566	BLUEGILL	3
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149567	BLUEGILL	4
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149568	BLUEGILL	5
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149569	BLUEGILL	8
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149570	BLUEGILL	4
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149571	BLUEGILL	3
NETTING	FYKE NET	8-Apr-05	4002729	BLUEGILL	1
NETTING	FYKE NET	10-Apr-05	4002777	BLUEGILL	2
NETTING	FYKE NET	10-Apr-05	4002778	BLUEGILL	1
NETTING	FYKE NET	10-Apr-05	4002779	BLUEGILL	1
NETTING	FYKE NET	10-Apr-05	4002786	BLUEGILL	1
NETTING	FYKE NET	11-Apr-05	4002768	BLUEGILL	2
OTHER	HOOK AND LINE	11-May-05	2740661	BLUEGILL	4
OTHER	HOOK AND LINE	11-May-05	2740662	BLUEGILL	1
OTHER	HOOK AND LINE	11-May-05	2740663	BLUEGILL	5
OTHER	HOOK AND LINE	11-May-05	2740664	BLUEGILL	7
OTHER	HOOK AND LINE	11-May-05	2740665	BLUEGILL	6
OTHER	HOOK AND LINE	11-May-05	2740666	BLUEGILL	13
OTHER	HOOK AND LINE	11-May-05	2740667	BLUEGILL	15
OTHER	HOOK AND LINE	11-May-05	2740668	BLUEGILL	21
OTHER	HOOK AND LINE	11-May-05	2740669	BLUEGILL	2
OTHER	HOOK AND LINE	11-May-05	2740670	BLUEGILL	3
OTHER	HOOK AND LINE	11-May-05	2740671	BLUEGILL	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057447	BLUEGILL	2
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057448	BLUEGILL	14
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057449	BLUEGILL	4
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057450	BLUEGILL	17
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057451	BLUEGILL	24
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057452	BLUEGILL	11
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057453	BLUEGILL	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057454	BLUEGILL	5
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057455	BLUEGILL	15
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057456	BLUEGILL	11
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057457	BLUEGILL	11
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057458	BLUEGILL	5
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057459	BLUEGILL	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057573	BLUEGILL	2
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057574	BLUEGILL	6
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057575	BLUEGILL	10
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057576	BLUEGILL	5
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057577	BLUEGILL	4
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057578	BLUEGILL	3
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057579	BLUEGILL	2
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057580	BLUEGILL	2
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057581	BLUEGILL	5
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057582	BLUEGILL	5
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057583	BLUEGILL	1
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783239	BLUEGILL	10
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783256	BLUEGILL	2
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783257	BLUEGILL	1

ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783258	BLUEGILL	1
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783259	BLUEGILL	2
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783260	BLUEGILL	2
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783261	BLUEGILL	1
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783262	BLUEGILL	3
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783263	BLUEGILL	2
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783264	BLUEGILL	4
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783265	BLUEGILL	7
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783266	BLUEGILL	2
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783267	BLUEGILL	4
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783268	BLUEGILL	2
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783269	BLUEGILL	2
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783270	BLUEGILL	4
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783271	BLUEGILL	1
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783272	BLUEGILL	3
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783273	BLUEGILL	1
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783274	BLUEGILL	1
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783275	BLUEGILL	1
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783276	BLUEGILL	2
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783277	BLUEGILL	1
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783278	BLUEGILL	1
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783279	BLUEGILL	3
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783280	BLUEGILL	2
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783281	BLUEGILL	2
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783282	BLUEGILL	4
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783283	BLUEGILL	2
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783284	BLUEGILL	2
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783285	BLUEGILL	2
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783286	BLUEGILL	2
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783287	BLUEGILL	2
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783288	BLUEGILL	4
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783289	BLUEGILL	2
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783290	BLUEGILL	1
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783291	BLUEGILL	2
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783292	BLUEGILL	2
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783570	BLUEGILL	6
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783571	BLUEGILL	2
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783572	BLUEGILL	2
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783573	BLUEGILL	1
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783574	BLUEGILL	2
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783575	BLUEGILL	2
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783576	BLUEGILL	6
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783577	BLUEGILL	4
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783578	BLUEGILL	4
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783579	BLUEGILL	4
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783580	BLUEGILL	2
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783581	BLUEGILL	2
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783582	BLUEGILL	2
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783583	BLUEGILL	3
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783584	BLUEGILL	2
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783585	BLUEGILL	2
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783586	BLUEGILL	2
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783587	BLUEGILL	2
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783588	BLUEGILL	1
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783589	BLUEGILL	1
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783590	BLUEGILL	3
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783591	BLUEGILL	3
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783592	BLUEGILL	1
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783593	BLUEGILL	2
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783594	BLUEGILL	1
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783595	BLUEGILL	5

ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783596	BLUEGILL	3
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783597	BLUEGILL	1
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783598	BLUEGILL	2
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783599	BLUEGILL	3
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783600	BLUEGILL	1
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783601	BLUEGILL	4
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783602	BLUEGILL	1
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783603	BLUEGILL	3
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783604	BLUEGILL	1
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783605	BLUEGILL	1
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783606	BLUEGILL	2
NETTING	FYKE NET	23-Apr-14	10379730	BLUEGILL	7
NETTING	FYKE NET	23-Apr-14	10379742	BLUEGILL	7
NETTING	FYKE NET	23-Apr-14	10379745	BLUEGILL	1
NETTING	FYKE NET	23-Apr-14	10379751	BLUEGILL	11
NETTING	FYKE NET	23-Apr-14	10379757	BLUEGILL	7
NETTING	FYKE NET	23-Apr-14	10379761	BLUEGILL	2
NETTING	FYKE NET	23-Apr-14	10379763	BLUEGILL	4
NETTING	FYKE NET	23-Apr-14	10379766	BLUEGILL	1
NETTING	FYKE NET	23-Apr-14	10379769	BLUEGILL	1
NETTING	FYKE NET	23-Apr-14	10379770	BLUEGILL	2
NETTING	FYKE NET	23-Apr-14	10379773	BLUEGILL	2
NETTING	FYKE NET	23-Apr-14	10379774	BLUEGILL	2
NETTING	FYKE NET	23-Apr-14	10379778	BLUEGILL	11
NETTING	FYKE NET	23-Apr-14	10379821	BLUEGILL	232
NETTING	FYKE NET	23-Apr-14	10379829	BLUEGILL	52
NETTING	FYKE NET	23-Apr-14	10379846	BLUEGILL	21
NETTING	FYKE NET	23-Apr-14	10379864	BLUEGILL	53
NETTING	FYKE NET	24-Apr-14	10379867	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10379868	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10379869	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10379870	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10379871	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10379872	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10379934	BLUEGILL	122
NETTING	FYKE NET	24-Apr-14	10379942	BLUEGILL	18
NETTING	FYKE NET	24-Apr-14	10379952	BLUEGILL	25
NETTING	FYKE NET	24-Apr-14	10379964	BLUEGILL	5
NETTING	FYKE NET	24-Apr-14	10379980	BLUEGILL	2
NETTING	FYKE NET	24-Apr-14	10379982	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10379983	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10379984	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10379985	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10379986	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10379987	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10379988	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10379989	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10379990	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10379991	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10379992	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10379993	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10379994	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10379995	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10379996	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10379997	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10379998	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10379999	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380000	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380001	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380002	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380003	BLUEGILL	1

NETTING	FYKE NET	24-Apr-14	10380004	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380005	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380006	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380007	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380008	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380009	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380010	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380011	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380012	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380013	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380014	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380015	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380066	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380067	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380068	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380069	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380070	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380071	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380072	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380073	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380074	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380075	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380076	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380077	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380078	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380079	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380080	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380081	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380082	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380083	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380084	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380085	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380086	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380087	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380088	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380089	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380090	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380091	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380092	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380093	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380094	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380095	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380096	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380097	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380098	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380099	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380100	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380101	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380102	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380103	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380104	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380105	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380106	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380107	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380108	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380109	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380110	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380111	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380112	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380113	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380114	BLUEGILL	1

NETTING	FYKE NET	24-Apr-14	10380115	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380116	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380117	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380158	BLUEGILL	68
NETTING	FYKE NET	24-Apr-14	10380160	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380161	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380162	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380163	BLUEGILL	1
NETTING	FYKE NET	24-Apr-14	10380164	BLUEGILL	1
NETTING	FYKE NET	25-Apr-14	10380168	BLUEGILL	1
NETTING	FYKE NET	25-Apr-14	10380172	BLUEGILL	1
NETTING	FYKE NET	25-Apr-14	10380198	BLUEGILL	9
NETTING	FYKE NET	25-Apr-14	10380205	BLUEGILL	2
NETTING	FYKE NET	25-Apr-14	10380213	BLUEGILL	48
NETTING	FYKE NET	25-Apr-14	10380218	BLUEGILL	38
NETTING	FYKE NET	25-Apr-14	10380233	BLUEGILL	34
NETTING	FYKE NET	25-Apr-14	10380253	BLUEGILL	18
NETTING	FYKE NET	25-Apr-14	10380265	BLUEGILL	20
NETTING	FYKE NET	25-Apr-14	10380267	BLUEGILL	80
NETTING	FYKE NET	25-Apr-14	10380269	BLUEGILL	8
NETTING	FYKE NET	25-Apr-14	10380272	BLUEGILL	11
NETTING	FYKE NET	25-Apr-14	10380284	BLUEGILL	34
NETTING	FYKE NET	25-Apr-14	10380300	BLUEGILL	49
NETTING	FYKE NET	26-Apr-14	10380302	BLUEGILL	1
NETTING	FYKE NET	26-Apr-14	10380326	BLUEGILL	25
NETTING	FYKE NET	26-Apr-14	10380332	BLUEGILL	6
NETTING	FYKE NET	26-Apr-14	10380357	BLUEGILL	58
NETTING	FYKE NET	26-Apr-14	10380378	BLUEGILL	40
NETTING	FYKE NET	26-Apr-14	10380398	BLUEGILL	29
NETTING	FYKE NET	26-Apr-14	10380404	BLUEGILL	9
NETTING	FYKE NET	26-Apr-14	10380420	BLUEGILL	109
NETTING	FYKE NET	26-Apr-14	10380421	BLUEGILL	40
NETTING	FYKE NET	26-Apr-14	10380424	BLUEGILL	20
NETTING	FYKE NET	26-Apr-14	10380431	BLUEGILL	29
NETTING	FYKE NET	26-Apr-14	10380433	BLUEGILL	7
NETTING	FYKE NET	26-Apr-14	10380438	BLUEGILL	9
NETTING	MINI FYKE NET	20-Jun-18	12626971	BLUEGILL	1
NETTING	MINI FYKE NET	20-Jun-18	12626972	BLUEGILL	1
NETTING	MINI FYKE NET	20-Jun-18	12626973	BLUEGILL	1
NETTING	MINI FYKE NET	20-Jun-18	12626974	BLUEGILL	1
NETTING	MINI FYKE NET	20-Jun-18	12626975	BLUEGILL	1
NETTING	MINI FYKE NET	20-Jun-18	12626976	BLUEGILL	1
NETTING	MINI FYKE NET	20-Jun-18	12626977	BLUEGILL	1
NETTING	MINI FYKE NET	20-Jun-18	12626978	BLUEGILL	1
NETTING	MINI FYKE NET	20-Jun-18	12626979	BLUEGILL	1
NETTING	MINI FYKE NET	20-Jun-18	12626980	BLUEGILL	1
NETTING	MINI FYKE NET	20-Jun-18	12626981	BLUEGILL	1
NETTING	MINI FYKE NET	20-Jun-18	12626982	BLUEGILL	1
NETTING	MINI FYKE NET	20-Jun-18	12626983	BLUEGILL	1
NETTING	MINI FYKE NET	20-Jun-18	12626984	BLUEGILL	1
NETTING	MINI FYKE NET	20-Jun-18	12626985	BLUEGILL	1
NETTING	MINI FYKE NET	20-Jun-18	12626986	BLUEGILL	1
NETTING	MINI FYKE NET	20-Jun-18	12626987	BLUEGILL	1
NETTING	MINI FYKE NET	20-Jun-18	12626988	BLUEGILL	1
NETTING	MINI FYKE NET	20-Jun-18	12626989	BLUEGILL	1
NETTING	MINI FYKE NET	20-Jun-18	12626990	BLUEGILL	1
NETTING	MINI FYKE NET	20-Jun-18	12626991	BLUEGILL	1
NETTING	MINI FYKE NET	20-Jun-18	12626992	BLUEGILL	1
NETTING	MINI FYKE NET	20-Jun-18	12626993	BLUEGILL	1
NETTING	MINI FYKE NET	20-Jun-18	12626994	BLUEGILL	1
NETTING	MINI FYKE NET	20-Jun-18	12626995	BLUEGILL	1

NETTING	MINI FYKE NET	20-Jun-18	12626996	BLUEGILL	1		
NETTING	MINI FYKE NET	20-Jun-18	12626997	BLUEGILL	1		
NETTING	MINI FYKE NET	20-Jun-18	12626998	BLUEGILL	1		
NETTING	MINI FYKE NET	20-Jun-18	12626999	BLUEGILL	1		
NETTING	MINI FYKE NET	20-Jun-18	12627000	BLUEGILL	1	3499	40.49%
NETTING	FYKE NET	8-Apr-05	4002669	BROOK TROUT	1		
NETTING	FYKE NET	9-Apr-05	4002734	BROOK TROUT	1		
NETTING	FYKE NET	11-Apr-05	4002765	BROOK TROUT	1	3	0.03%
ELECTROFI!	BOOM SHOCKEI	27-Oct-65	8223487	BROWN BULLHEAD	1		
ELECTROFI!	BOOM SHOCKEI	27-Oct-65	8223488	BROWN BULLHEAD	1		
ELECTROFI!	BOOM SHOCKEI	27-Oct-65	8223489	BROWN BULLHEAD	1		
ELECTROFI!	BOOM SHOCKEI	27-Oct-65	8223490	BROWN BULLHEAD	1		
ELECTROFI!	BOOM SHOCKEI	27-Oct-65	8223491	BROWN BULLHEAD	1		
NETTING	FYKE NET	9-Jun-03	2107253	BROWN BULLHEAD	2		
NETTING	FYKE NET	9-Jun-03	2107254	BROWN BULLHEAD	2		
NETTING	FYKE NET	10-Jun-03	2107282	BROWN BULLHEAD	2		
NETTING	FYKE NET	13-Jun-03	2107293	BROWN BULLHEAD	1		
NETTING	FYKE NET	13-Jun-03	2107324	BROWN BULLHEAD	1	13	0.15%
ELECTROFI!	BOOM SHOCKEI	27-Oct-65	8226340	BROWN TROUT	1		
NETTING	FYKE NET	25-Apr-14	10380235	BROWN TROUT	1	2	0.02%
NETTING	FYKE NET	25-Apr-08	6774664	BURBOT	1	1	0.01%
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149532	CENTRAL MUDMINNOW	4		
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149592	CENTRAL MUDMINNOW	2		
NETTING	FYKE NET	8-Apr-05	4002723	CENTRAL MUDMINNOW	1		
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783347	CENTRAL MUDMINNOW	1		
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783349	CENTRAL MUDMINNOW	1		
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783350	CENTRAL MUDMINNOW	1		
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783351	CENTRAL MUDMINNOW	1		
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783352	CENTRAL MUDMINNOW	2		
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783353	CENTRAL MUDMINNOW	1		
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783354	CENTRAL MUDMINNOW	1		
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783355	CENTRAL MUDMINNOW	1	16	0.19%
ELECTROFI!	BOOM SHOCKEI	4-Oct-07	6057498	CHESNUT LAMPREY (AMMOCOETE)	1		
NETTING	FYKE NET	24-Apr-08	6774509	CHESTNUT LAMPREY	2	3	0.03%
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149528	COMMON SHINER	5		
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149529	COMMON SHINER	6		
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149530	COMMON SHINER	1		
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149531	COMMON SHINER	1		
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149580	COMMON SHINER	3		
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149581	COMMON SHINER	3		
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149582	COMMON SHINER	1		
NETTING	FYKE NET	11-Apr-05	4002767	COMMON SHINER	2	22	0.25%
ELECTROFI!	BOOM SHOCKEI	27-Oct-65	8223492	CRAPPIES	1		
ELECTROFI!	BOOM SHOCKEI	27-Oct-65	8223493	CRAPPIES	1		
ELECTROFI!	BOOM SHOCKEI	27-Oct-65	8223494	CRAPPIES	1		
ELECTROFI!	BOOM SHOCKEI	27-Oct-65	8223495	CRAPPIES	1	4	0.05%
NETTING	FYKE NET	9-Jun-03	2107242	GOLDEN SHINER	1		
NETTING	FYKE NET	14-Jun-03	2107334	GOLDEN SHINER	7		
NETTING	FYKE NET	15-Jun-03	2107367	GOLDEN SHINER	2		
NETTING	FYKE NET	10-Apr-05	4002784	GOLDEN SHINER	1		
NETTING	FYKE NET	11-Apr-05	4002774	GOLDEN SHINER	1		
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783685	GOLDEN SHINER	1		
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783686	GOLDEN SHINER	1	14	0.16%
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783678	GREATER REDHORSE	1		
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783679	GREATER REDHORSE	1	2	0.02%
ELECTROFI!	BOOM SHOCKEI	3-Oct-01	2068909	LARGEMOUTH BASS	1		
ELECTROFI!	BOOM SHOCKEI	3-Oct-01	2068910	LARGEMOUTH BASS	1		
ELECTROFI!	BOOM SHOCKEI	3-Oct-01	2068911	LARGEMOUTH BASS	1		
ELECTROFI!	BOOM SHOCKEI	3-Oct-01	2068912	LARGEMOUTH BASS	2		
ELECTROFI!	BOOM SHOCKEI	3-Oct-01	2068913	LARGEMOUTH BASS	2		
ELECTROFI!	BOOM SHOCKEI	3-Oct-01	2068914	LARGEMOUTH BASS	1		

ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068915	LARGEMOUTH BASS	2
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068916	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068917	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068918	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068919	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068920	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068921	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068922	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068923	LARGEMOUTH BASS	2
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068924	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068925	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068926	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	13422156	LARGEMOUTH BASS	16
ELECTROFIS	BOOM SHOCKEI	4-Oct-02	2068987	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-02	2068988	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-02	2068989	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-02	2068990	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-02	2068991	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-02	2068992	LARGEMOUTH BASS	2
ELECTROFIS	BOOM SHOCKEI	4-Oct-02	2068993	LARGEMOUTH BASS	2
ELECTROFIS	BOOM SHOCKEI	4-Oct-02	2068994	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-02	2068995	LARGEMOUTH BASS	2
ELECTROFIS	BOOM SHOCKEI	4-Oct-02	2068996	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-02	2068997	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-02	2068998	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-02	2068999	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-02	2069000	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-02	2069001	LARGEMOUTH BASS	1
NETTING	FYKE NET	8-Jun-03	2107207	LARGEMOUTH BASS	1
NETTING	FYKE NET	8-Jun-03	2107234	LARGEMOUTH BASS	1
NETTING	FYKE NET	15-Jun-03	2104434	LARGEMOUTH BASS	1
NETTING	FYKE NET	15-Jun-03	2104435	LARGEMOUTH BASS	1
NETTING	FYKE NET	15-Jun-03	2104436	LARGEMOUTH BASS	1
NETTING	FYKE NET	15-Jun-03	2104437	LARGEMOUTH BASS	1
NETTING	FYKE NET	15-Jun-03	2107380	LARGEMOUTH BASS	3
NETTING	FYKE NET	15-Jun-03	2107381	LARGEMOUTH BASS	3
NETTING	FYKE NET	15-Jun-03	2107382	LARGEMOUTH BASS	3
NETTING	MINI FYKE NET '	15-Jul-03	2115232	LARGEMOUTH BASS	1
NETTING	MINI FYKE NET '	15-Jul-03	2115237	LARGEMOUTH BASS	2
NETTING	MINI FYKE NET '	15-Jul-03	2115238	LARGEMOUTH BASS	2
NETTING	MINI FYKE NET '	15-Jul-03	2115241	LARGEMOUTH BASS	1
NETTING	MINI FYKE NET '	15-Jul-03	2115242	LARGEMOUTH BASS	3
NETTING	MINI FYKE NET '	15-Jul-03	2115243	LARGEMOUTH BASS	3
NETTING	MINI FYKE NET '	15-Jul-03	2115244	LARGEMOUTH BASS	1
NETTING	MINI FYKE NET '	15-Jul-03	2115245	LARGEMOUTH BASS	2
NETTING	MINI FYKE NET '	15-Jul-03	2115246	LARGEMOUTH BASS	3
NETTING	MINI FYKE NET '	15-Jul-03	2115257	LARGEMOUTH BASS	2
NETTING	MINI FYKE NET '	15-Jul-03	2115258	LARGEMOUTH BASS	6
NETTING	MINI FYKE NET '	15-Jul-03	2115259	LARGEMOUTH BASS	2
NETTING	MINI FYKE NET '	15-Jul-03	2115260	LARGEMOUTH BASS	2
NETTING	MINI FYKE NET '	15-Jul-03	2115279	LARGEMOUTH BASS	1
NETTING	MINI FYKE NET '	15-Jul-03	2115280	LARGEMOUTH BASS	2
NETTING	MINI FYKE NET '	16-Jul-03	2115309	LARGEMOUTH BASS	34
NETTING	MINI FYKE NET '	16-Jul-03	2115310	LARGEMOUTH BASS	2
NETTING	MINI FYKE NET '	16-Jul-03	2115311	LARGEMOUTH BASS	1
NETTING	MINI FYKE NET '	16-Jul-03	2115312	LARGEMOUTH BASS	7
NETTING	MINI FYKE NET '	16-Jul-03	2115313	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149337	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149474	LARGEMOUTH BASS	2
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149475	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149476	LARGEMOUTH BASS	1

ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149477	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149478	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724733	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724734	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724735	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724736	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724737	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724738	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724739	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724740	LARGEMOUTH BASS	2
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724741	LARGEMOUTH BASS	2
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724742	LARGEMOUTH BASS	2
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724743	LARGEMOUTH BASS	2
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724744	LARGEMOUTH BASS	2
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724745	LARGEMOUTH BASS	4
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724746	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724747	LARGEMOUTH BASS	1
NETTING	FYKE NET	9-Apr-05	4002731	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	27-Apr-05	2740552	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	27-Apr-05	2740553	LARGEMOUTH BASS	3
ELECTROFIS	BOOM SHOCKEI	27-Apr-05	2740554	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	27-Apr-05	2740555	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	27-Apr-05	2740556	LARGEMOUTH BASS	1
OTHER	HOOK AND LINE	11-May-05	2740680	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	25-Sep-06	3868311	LARGEMOUTH BASS	2
ELECTROFIS	BOOM SHOCKEI	25-Sep-06	3868312	LARGEMOUTH BASS	12
ELECTROFIS	BOOM SHOCKEI	25-Sep-06	3868313	LARGEMOUTH BASS	2
ELECTROFIS	BOOM SHOCKEI	25-Sep-06	3868314	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	25-Sep-06	3868315	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	25-Sep-06	3868316	LARGEMOUTH BASS	6
ELECTROFIS	BOOM SHOCKEI	25-Sep-06	3868317	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	25-Sep-06	3868318	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	25-Sep-06	3868319	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	25-Sep-06	3868320	LARGEMOUTH BASS	3
ELECTROFIS	BOOM SHOCKEI	25-Sep-06	3868321	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	25-Sep-06	3868322	LARGEMOUTH BASS	3
ELECTROFIS	BOOM SHOCKEI	25-Sep-06	3868323	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	25-Sep-06	3868324	LARGEMOUTH BASS	2
ELECTROFIS	BOOM SHOCKEI	25-Sep-06	3868325	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057403	LARGEMOUTH BASS	2
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057405	LARGEMOUTH BASS	3
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057406	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057410	LARGEMOUTH BASS	2
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057411	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057412	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057413	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057414	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057416	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057417	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057418	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057419	LARGEMOUTH BASS	5
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057420	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057421	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057422	LARGEMOUTH BASS	2
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057423	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057424	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057425	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057426	LARGEMOUTH BASS	2
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057427	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057556	LARGEMOUTH BASS	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057557	LARGEMOUTH BASS	1

ELECTROFI!	BOOM SHOCKEI	4-Oct-07	6057558	LARGEMOUTH BASS	1
ELECTROFI!	BOOM SHOCKEI	4-Oct-07	6057559	LARGEMOUTH BASS	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783756	LARGEMOUTH BASS	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783757	LARGEMOUTH BASS	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783758	LARGEMOUTH BASS	3
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783759	LARGEMOUTH BASS	4
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783760	LARGEMOUTH BASS	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783761	LARGEMOUTH BASS	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783762	LARGEMOUTH BASS	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783763	LARGEMOUTH BASS	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783764	LARGEMOUTH BASS	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783765	LARGEMOUTH BASS	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783766	LARGEMOUTH BASS	3
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783767	LARGEMOUTH BASS	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783768	LARGEMOUTH BASS	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783828	LARGEMOUTH BASS	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783829	LARGEMOUTH BASS	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783830	LARGEMOUTH BASS	2
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783831	LARGEMOUTH BASS	2
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783832	LARGEMOUTH BASS	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783833	LARGEMOUTH BASS	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783834	LARGEMOUTH BASS	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783835	LARGEMOUTH BASS	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783836	LARGEMOUTH BASS	2
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783837	LARGEMOUTH BASS	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783838	LARGEMOUTH BASS	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783839	LARGEMOUTH BASS	2
NETTING	FYKE NET	2-May-13	9967988	LARGEMOUTH BASS	1
NETTING	FYKE NET	2-May-13	9967989	LARGEMOUTH BASS	1
NETTING	FYKE NET	2-May-13	9967990	LARGEMOUTH BASS	1
NETTING	FYKE NET	2-May-13	9967991	LARGEMOUTH BASS	1
NETTING	FYKE NET	2-May-13	9967992	LARGEMOUTH BASS	1
NETTING	FYKE NET	2-May-13	9967993	LARGEMOUTH BASS	1
NETTING	FYKE NET	2-May-13	9967994	LARGEMOUTH BASS	1
NETTING	FYKE NET	2-May-13	9967995	LARGEMOUTH BASS	1
NETTING	FYKE NET	2-May-13	9967996	LARGEMOUTH BASS	1
NETTING	FYKE NET	2-May-13	9967997	LARGEMOUTH BASS	1
NETTING	FYKE NET	2-May-13	9967998	LARGEMOUTH BASS	1
NETTING	FYKE NET	2-May-13	9967999	LARGEMOUTH BASS	1
NETTING	FYKE NET	2-May-13	9968000	LARGEMOUTH BASS	1
NETTING	FYKE NET	2-May-13	9968001	LARGEMOUTH BASS	1
NETTING	FYKE NET	2-May-13	9968002	LARGEMOUTH BASS	1
NETTING	FYKE NET	2-May-13	9968003	LARGEMOUTH BASS	1
NETTING	FYKE NET	2-May-13	9968004	LARGEMOUTH BASS	1
NETTING	FYKE NET	2-May-13	9968005	LARGEMOUTH BASS	1
NETTING	FYKE NET	2-May-13	9968006	LARGEMOUTH BASS	1
NETTING	FYKE NET	2-May-13	9968007	LARGEMOUTH BASS	1
NETTING	FYKE NET	2-May-13	9968008	LARGEMOUTH BASS	1
NETTING	FYKE NET	2-May-13	9968009	LARGEMOUTH BASS	1
NETTING	FYKE NET	2-May-13	9968010	LARGEMOUTH BASS	1
NETTING	FYKE NET	2-May-13	9968011	LARGEMOUTH BASS	1
NETTING	FYKE NET	2-May-13	9968012	LARGEMOUTH BASS	1
NETTING	FYKE NET	2-May-13	9968013	LARGEMOUTH BASS	1
NETTING	FYKE NET	2-May-13	9968014	LARGEMOUTH BASS	1
NETTING	FYKE NET	2-May-13	9968015	LARGEMOUTH BASS	1
NETTING	FYKE NET	24-Apr-14	10379884	LARGEMOUTH BASS	1
NETTING	FYKE NET	24-Apr-14	10379885	LARGEMOUTH BASS	1
NETTING	FYKE NET	24-Apr-14	10379890	LARGEMOUTH BASS	1
NETTING	FYKE NET	24-Apr-14	10379905	LARGEMOUTH BASS	1
NETTING	FYKE NET	24-Apr-14	10379907	LARGEMOUTH BASS	1
NETTING	FYKE NET	24-Apr-14	10379928	LARGEMOUTH BASS	1

NETTING	FYKE NET	24-Apr-14	10379930	LARGEMOUTH BASS	1		
NETTING	FYKE NET	24-Apr-14	10379940	LARGEMOUTH BASS	1		
NETTING	FYKE NET	24-Apr-14	10379979	LARGEMOUTH BASS	1		
NETTING	FYKE NET	26-Apr-14	10380329	LARGEMOUTH BASS	1		
NETTING	FYKE NET	26-Apr-14	10380336	LARGEMOUTH BASS	1		
NETTING	FYKE NET	26-Apr-14	10380337	LARGEMOUTH BASS	1	336	3.89%
NETTING	FYKE NET	8-Apr-05	4002720	LOGPERCH	1		
NETTING	FYKE NET	8-Apr-05	4002721	LOGPERCH	1		
NETTING	FYKE NET	8-Apr-05	4002722	LOGPERCH	1	3	0.03%
ELECTROFI!	BOOM SHOCKEI	3-Oct-01	2068952	MUSKELLUNGE	1		
ELECTROFI!	BOOM SHOCKEI	3-Oct-01	2068953	MUSKELLUNGE	1		
ELECTROFI!	BOOM SHOCKEI	3-Oct-01	2068954	MUSKELLUNGE	1		
ELECTROFI!	BOOM SHOCKEI	3-Oct-01	2068955	MUSKELLUNGE	1		
ELECTROFI!	BOOM SHOCKEI	3-Oct-01	2068956	MUSKELLUNGE	1		
ELECTROFI!	BOOM SHOCKEI	26-Sep-02	1998702	MUSKELLUNGE	1		
ELECTROFI!	BOOM SHOCKEI	26-Sep-02	1998703	MUSKELLUNGE	2		
ELECTROFI!	BOOM SHOCKEI	26-Sep-02	1998704	MUSKELLUNGE	1		
ELECTROFI!	BOOM SHOCKEI	26-Sep-02	1998705	MUSKELLUNGE	1		
ELECTROFI!	BOOM SHOCKEI	26-Sep-02	1998706	MUSKELLUNGE	1		
ELECTROFI!	BOOM SHOCKEI	26-Sep-02	1998707	MUSKELLUNGE	1		
ELECTROFI!	BOOM SHOCKEI	4-Oct-02	2068977	MUSKELLUNGE	1		
ELECTROFI!	BOOM SHOCKEI	4-Oct-02	2068978	MUSKELLUNGE	1		
ELECTROFI!	BOOM SHOCKEI	4-Oct-02	2068979	MUSKELLUNGE	1		
ELECTROFI!	BOOM SHOCKEI	4-Oct-02	2068980	MUSKELLUNGE	1		
ELECTROFI!	BOOM SHOCKEI	4-Oct-02	2068981	MUSKELLUNGE	1		
ELECTROFI!	BOOM SHOCKEI	4-Oct-02	2068982	MUSKELLUNGE	1		
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149321	MUSKELLUNGE	1		
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149322	MUSKELLUNGE	1		
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149323	MUSKELLUNGE	1		
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149324	MUSKELLUNGE	1		
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149443	MUSKELLUNGE	1		
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149444	MUSKELLUNGE	2		
ELECTROFI!	BOOM SHOCKEI	6-Oct-04	2724725	MUSKELLUNGE	1		
ELECTROFI!	BOOM SHOCKEI	6-Oct-04	2724726	MUSKELLUNGE	2		
ELECTROFI!	BOOM SHOCKEI	6-Oct-04	2724727	MUSKELLUNGE	1		
ELECTROFI!	BOOM SHOCKEI	6-Oct-04	2724728	MUSKELLUNGE	4		
ELECTROFI!	BOOM SHOCKEI	6-Oct-04	2724729	MUSKELLUNGE	1		
ELECTROFI!	BOOM SHOCKEI	6-Oct-04	2724730	MUSKELLUNGE	1		
ELECTROFI!	BOOM SHOCKEI	6-Oct-04	2724731	MUSKELLUNGE	1		
ELECTROFI!	BOOM SHOCKEI	6-Oct-04	2724732	MUSKELLUNGE	1		
ELECTROFI!	BOOM SHOCKEI	27-Apr-05	2740549	MUSKELLUNGE	1		
ELECTROFI!	BOOM SHOCKEI	27-Apr-05	2740550	MUSKELLUNGE	1		
ELECTROFI!	BOOM SHOCKEI	27-Apr-05	2740551	MUSKELLUNGE	1		
ELECTROFI!	BOOM SHOCKEI	25-Sep-06	3868327	MUSKELLUNGE	1		
ELECTROFI!	BOOM SHOCKEI	25-Sep-06	3868328	MUSKELLUNGE	1		
ELECTROFI!	BOOM SHOCKEI	25-Sep-06	3868329	MUSKELLUNGE	1		
ELECTROFI!	BOOM SHOCKEI	25-Sep-06	3868330	MUSKELLUNGE	1		
ELECTROFI!	BOOM SHOCKEI	25-Sep-06	3868331	MUSKELLUNGE	1		
ELECTROFI!	BOOM SHOCKEI	4-Oct-07	6057561	MUSKELLUNGE	1		
NETTING	FYKE NET	24-Apr-08	6774484	MUSKELLUNGE	1		
NETTING	FYKE NET	24-Apr-08	6774485	MUSKELLUNGE	1		
NETTING	FYKE NET	24-Apr-08	6774486	MUSKELLUNGE	1		
NETTING	FYKE NET	24-Apr-08	6774487	MUSKELLUNGE	1		
NETTING	FYKE NET	24-Apr-08	6774488	MUSKELLUNGE	1		
NETTING	FYKE NET	24-Apr-08	6774489	MUSKELLUNGE	1		
NETTING	FYKE NET	24-Apr-08	6774490	MUSKELLUNGE	1		
NETTING	FYKE NET	24-Apr-08	6774491	MUSKELLUNGE	1		
NETTING	FYKE NET	24-Apr-08	6774492	MUSKELLUNGE	1		
NETTING	FYKE NET	25-Apr-08	6774649	MUSKELLUNGE	1		
NETTING	FYKE NET	25-Apr-08	6774650	MUSKELLUNGE	1		
NETTING	FYKE NET	25-Apr-08	6774651	MUSKELLUNGE	1		

NETTING	FYKE NET	25-Apr-08	6774652	MUSKELLUNGE	1		
NETTING	FYKE NET	25-Apr-08	6774653	MUSKELLUNGE	1		
ELECTROFI:	BOOM SHOCKEI	9-Jun-08	6783849	MUSKELLUNGE	1		
NETTING	FYKE NET	2-May-13	9967978	MUSKELLUNGE	1		
NETTING	FYKE NET	2-May-13	9967979	MUSKELLUNGE	1		
NETTING	FYKE NET	2-May-13	9967980	MUSKELLUNGE	1		
NETTING	FYKE NET	2-May-13	9967981	MUSKELLUNGE	1		
NETTING	FYKE NET	2-May-13	9967982	MUSKELLUNGE	1		
NETTING	FYKE NET	2-May-13	9967983	MUSKELLUNGE	1		
NETTING	FYKE NET	2-May-13	9967984	MUSKELLUNGE	1		
NETTING	FYKE NET	2-May-13	9967985	MUSKELLUNGE	1		
NETTING	FYKE NET	2-May-13	9967986	MUSKELLUNGE	1		
NETTING	FYKE NET	2-May-13	9968016	MUSKELLUNGE	1		
NETTING	FYKE NET	2-May-13	9968017	MUSKELLUNGE	1		
NETTING	FYKE NET	2-May-13	9968021	MUSKELLUNGE	1		
ELECTROFI:	BOOM SHOCKEI	28-Apr-14	10380439	MUSKELLUNGE	1		
OTHER	HOOK AND LINE	21-May-14	13225711	MUSKELLUNGE	1		
OTHER	HOOK AND LINE	21-May-14	13225712	MUSKELLUNGE	1		
OTHER	HOOK AND LINE	1-Jun-18	12565194	MUSKELLUNGE	1		
OTHER	HOOK AND LINE	4-Jul-18	12565195	MUSKELLUNGE	1	78	0.90%
NETTING	FYKE NET	24-Apr-08	6774505	NORTHERN HOG SUCKER	1		
NETTING	FYKE NET	24-Apr-08	6774506	NORTHERN HOG SUCKER	1		
NETTING	FYKE NET	24-Apr-08	6774507	NORTHERN HOG SUCKER	1		
NETTING	FYKE NET	25-Apr-08	6774668	NORTHERN HOG SUCKER	1	4	0.05%
ELECTROFI:	BOOM SHOCKEI	27-Oct-65	8223454	NORTHERN PIKE	1		
ELECTROFI:	BOOM SHOCKEI	27-Oct-65	8223455	NORTHERN PIKE	1		
ELECTROFI:	BOOM SHOCKEI	27-Oct-65	8223456	NORTHERN PIKE	2		
ELECTROFI:	BOOM SHOCKEI	27-Oct-65	8223457	NORTHERN PIKE	1		
ELECTROFI:	BOOM SHOCKEI	27-Oct-65	8223458	NORTHERN PIKE	1		
ELECTROFI:	BOOM SHOCKEI	27-Oct-65	8223459	NORTHERN PIKE	1		
ELECTROFI:	BOOM SHOCKEI	27-Oct-65	8223460	NORTHERN PIKE	1		
ELECTROFI:	BOOM SHOCKEI	27-Oct-65	8223461	NORTHERN PIKE	1		
ELECTROFI:	BOOM SHOCKEI	27-Oct-65	8223462	NORTHERN PIKE	1		
ELECTROFI:	BOOM SHOCKEI	27-Oct-65	8223463	NORTHERN PIKE	1		
ELECTROFI:	BOOM SHOCKEI	27-Oct-65	8226341	NORTHERN PIKE	1		
ELECTROFI:	BOOM SHOCKEI	27-Oct-65	8226342	NORTHERN PIKE	1		
ELECTROFI:	BOOM SHOCKEI	27-Oct-65	8226343	NORTHERN PIKE	1		
ELECTROFI:	BOOM SHOCKEI	27-Oct-65	8226344	NORTHERN PIKE	1		
ELECTROFI:	BOOM SHOCKEI	27-Oct-65	8226345	NORTHERN PIKE	4		
ELECTROFI:	BOOM SHOCKEI	27-Oct-65	8226346	NORTHERN PIKE	1		
ELECTROFI:	BOOM SHOCKEI	27-Oct-65	8226347	NORTHERN PIKE	1		
ELECTROFI:	BOOM SHOCKEI	27-Oct-65	8226348	NORTHERN PIKE	1		
ELECTROFI:	BOOM SHOCKEI	27-Oct-65	8226349	NORTHERN PIKE	2		
ELECTROFI:	BOOM SHOCKEI	27-Oct-65	8226350	NORTHERN PIKE	2		
ELECTROFI:	BOOM SHOCKEI	27-Oct-65	8226351	NORTHERN PIKE	1		
ELECTROFI:	BOOM SHOCKEI	27-Oct-65	8226352	NORTHERN PIKE	4		
ELECTROFI:	BOOM SHOCKEI	27-Oct-65	8226353	NORTHERN PIKE	2		
ELECTROFI:	BOOM SHOCKEI	27-Oct-65	8226354	NORTHERN PIKE	2		
ELECTROFI:	BOOM SHOCKEI	27-Oct-65	8226355	NORTHERN PIKE	2		
ELECTROFI:	BOOM SHOCKEI	27-Oct-65	8226356	NORTHERN PIKE	1		
ELECTROFI:	BOOM SHOCKEI	27-Oct-65	8226357	NORTHERN PIKE	1		
ELECTROFI:	BOOM SHOCKEI	27-Oct-65	8226358	NORTHERN PIKE	4		
ELECTROFI:	BOOM SHOCKEI	27-Oct-65	8226359	NORTHERN PIKE	1		
ELECTROFI:	BOOM SHOCKEI	3-Oct-01	2068927	NORTHERN PIKE	2		
ELECTROFI:	BOOM SHOCKEI	3-Oct-01	2068928	NORTHERN PIKE	37		
ELECTROFI:	BOOM SHOCKEI	3-Oct-01	2068929	NORTHERN PIKE	1		
ELECTROFI:	BOOM SHOCKEI	3-Oct-01	2068930	NORTHERN PIKE	7		
ELECTROFI:	BOOM SHOCKEI	3-Oct-01	2068931	NORTHERN PIKE	2		
ELECTROFI:	BOOM SHOCKEI	3-Oct-01	2068932	NORTHERN PIKE	3		
ELECTROFI:	BOOM SHOCKEI	3-Oct-01	2068933	NORTHERN PIKE	1		
ELECTROFI:	BOOM SHOCKEI	3-Oct-01	2068934	NORTHERN PIKE	1		

ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068935	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068936	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068937	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068938	NORTHERN PIKE	2
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068939	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068940	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068941	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068942	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068943	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068944	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068945	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068946	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068947	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068948	NORTHERN PIKE	2
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068949	NORTHERN PIKE	2
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068950	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068951	NORTHERN PIKE	1
NETTING	FYKE NET	28-May-02	2088798	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	1998672	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	1998673	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	1998674	NORTHERN PIKE	6
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	1998675	NORTHERN PIKE	4
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	1998676	NORTHERN PIKE	2
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	1998677	NORTHERN PIKE	2
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	1998678	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	1998679	NORTHERN PIKE	4
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	1998680	NORTHERN PIKE	2
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	1998681	NORTHERN PIKE	2
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	1998682	NORTHERN PIKE	5
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	1998683	NORTHERN PIKE	3
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	1998684	NORTHERN PIKE	2
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	1998685	NORTHERN PIKE	3
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	1998686	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	1998687	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	1998688	NORTHERN PIKE	2
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	1998689	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	1998690	NORTHERN PIKE	3
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	1998691	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	1998692	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	1998693	NORTHERN PIKE	2
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	1998694	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	1998695	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	1998696	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	1998697	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	1998698	NORTHERN PIKE	2
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	1998699	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	1998700	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	1998701	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-02	2068957	NORTHERN PIKE	2
ELECTROFIS	BOOM SHOCKEI	4-Oct-02	2068958	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-02	2068959	NORTHERN PIKE	7
ELECTROFIS	BOOM SHOCKEI	4-Oct-02	2068960	NORTHERN PIKE	2
ELECTROFIS	BOOM SHOCKEI	4-Oct-02	2068961	NORTHERN PIKE	3
ELECTROFIS	BOOM SHOCKEI	4-Oct-02	2068962	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-02	2068963	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-02	2068964	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-02	2068965	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-02	2068966	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-02	2068967	NORTHERN PIKE	2
ELECTROFIS	BOOM SHOCKEI	4-Oct-02	2068968	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-02	2068969	NORTHERN PIKE	1

ELECTROFIS	BOOM SHOCKEI	4-Oct-02	2068970	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-02	2068971	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-02	2068972	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-02	2068973	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-02	2068974	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-02	2068975	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-02	2068976	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-02	2068983	NORTHERN PIKE	2
ELECTROFIS	BOOM SHOCKEI	4-Oct-02	2068984	NORTHERN PIKE	2
ELECTROFIS	BOOM SHOCKEI	4-Oct-02	2068985	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-02	2068986	NORTHERN PIKE	1
NETTING	FYKE NET	8-Jun-03	2107202	NORTHERN PIKE	1
NETTING	FYKE NET	8-Jun-03	2107235	NORTHERN PIKE	1
NETTING	FYKE NET	9-Jun-03	2107239	NORTHERN PIKE	3
NETTING	FYKE NET	9-Jun-03	2107269	NORTHERN PIKE	3
NETTING	FYKE NET	9-Jun-03	2107270	NORTHERN PIKE	3
NETTING	FYKE NET	9-Jun-03	2107271	NORTHERN PIKE	3
NETTING	FYKE NET	13-Jun-03	2107287	NORTHERN PIKE	1
NETTING	FYKE NET	13-Jun-03	2107292	NORTHERN PIKE	1
NETTING	FYKE NET	13-Jun-03	2107326	NORTHERN PIKE	2
NETTING	FYKE NET	13-Jun-03	2107327	NORTHERN PIKE	2
NETTING	FYKE NET	14-Jun-03	2107333	NORTHERN PIKE	1
NETTING	FYKE NET	15-Jun-03	2104428	NORTHERN PIKE	1
NETTING	FYKE NET	15-Jun-03	2104429	NORTHERN PIKE	2
NETTING	FYKE NET	15-Jun-03	2104430	NORTHERN PIKE	1
NETTING	FYKE NET	15-Jun-03	2104431	NORTHERN PIKE	1
NETTING	FYKE NET	15-Jun-03	2104432	NORTHERN PIKE	1
NETTING	FYKE NET	15-Jun-03	2104433	NORTHERN PIKE	1
NETTING	FYKE NET	15-Jun-03	2107373	NORTHERN PIKE	1
NETTING	FYKE NET	15-Jun-03	2107379	NORTHERN PIKE	1
NETTING	FYKE NET	15-Jun-03	2107383	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149313	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149314	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149315	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149316	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149317	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149318	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149319	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149320	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149460	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149461	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149462	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149463	NORTHERN PIKE	2
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149464	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149465	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149466	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149467	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149468	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724748	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724749	NORTHERN PIKE	3
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724750	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724751	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724752	NORTHERN PIKE	3
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724753	NORTHERN PIKE	3
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724754	NORTHERN PIKE	2
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724755	NORTHERN PIKE	2
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724756	NORTHERN PIKE	3
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724757	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724758	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724759	NORTHERN PIKE	4
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724760	NORTHERN PIKE	2

ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724761	NORTHERN PIKE	2
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724762	NORTHERN PIKE	2
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724763	NORTHERN PIKE	2
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724764	NORTHERN PIKE	2
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724765	NORTHERN PIKE	2
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724766	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724767	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724768	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724769	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724770	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724771	NORTHERN PIKE	2
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724772	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724773	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724774	NORTHERN PIKE	1
NETTING	FYKE NET	10-Apr-05	4002782	NORTHERN PIKE	1
NETTING	FYKE NET	10-Apr-05	4002783	NORTHERN PIKE	1
NETTING	FYKE NET	11-Apr-05	4002759	NORTHERN PIKE	1
NETTING	FYKE NET	11-Apr-05	4002760	NORTHERN PIKE	1
NETTING	FYKE NET	11-Apr-05	4002761	NORTHERN PIKE	1
NETTING	FYKE NET	11-Apr-05	4002762	NORTHERN PIKE	1
NETTING	FYKE NET	11-Apr-05	4002763	NORTHERN PIKE	1
NETTING	FYKE NET	11-Apr-05	4002764	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	27-Apr-05	2740547	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	27-Apr-05	2740548	NORTHERN PIKE	3
OTHER	HOOK AND LINE	11-May-05	2740681	NORTHERN PIKE	3
OTHER	HOOK AND LINE	11-May-05	2740682	NORTHERN PIKE	3
OTHER	HOOK AND LINE	11-May-05	2740683	NORTHERN PIKE	3
ELECTROFIS	BOOM SHOCKEI	25-Sep-06	3868332	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	25-Sep-06	3868333	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	25-Sep-06	3868334	NORTHERN PIKE	3
ELECTROFIS	BOOM SHOCKEI	25-Sep-06	3868335	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	25-Sep-06	3868336	NORTHERN PIKE	3
ELECTROFIS	BOOM SHOCKEI	25-Sep-06	3868337	NORTHERN PIKE	2
ELECTROFIS	BOOM SHOCKEI	25-Sep-06	3868338	NORTHERN PIKE	2
ELECTROFIS	BOOM SHOCKEI	25-Sep-06	3868339	NORTHERN PIKE	3
ELECTROFIS	BOOM SHOCKEI	25-Sep-06	3868340	NORTHERN PIKE	2
ELECTROFIS	BOOM SHOCKEI	25-Sep-06	3868341	NORTHERN PIKE	2
ELECTROFIS	BOOM SHOCKEI	25-Sep-06	3868342	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	25-Sep-06	3868343	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057434	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057435	NORTHERN PIKE	2
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057436	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057437	NORTHERN PIKE	2
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057438	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057439	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057440	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057441	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057442	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057443	NORTHERN PIKE	3
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057444	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057445	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057446	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057552	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057553	NORTHERN PIKE	3
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057554	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057555	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057560	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-08	6774427	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-08	6774428	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-08	6774429	NORTHERN PIKE	3
NETTING	FYKE NET	24-Apr-08	6774430	NORTHERN PIKE	3

NETTING	FYKE NET	24-Apr-08	6774431	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-08	6774432	NORTHERN PIKE	3
NETTING	FYKE NET	24-Apr-08	6774433	NORTHERN PIKE	2
NETTING	FYKE NET	24-Apr-08	6774434	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-08	6774435	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-08	6774436	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-08	6774437	NORTHERN PIKE	2
NETTING	FYKE NET	24-Apr-08	6774438	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-08	6774439	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-08	6774440	NORTHERN PIKE	4
NETTING	FYKE NET	24-Apr-08	6774441	NORTHERN PIKE	4
NETTING	FYKE NET	24-Apr-08	6774442	NORTHERN PIKE	3
NETTING	FYKE NET	24-Apr-08	6774443	NORTHERN PIKE	3
NETTING	FYKE NET	24-Apr-08	6774444	NORTHERN PIKE	3
NETTING	FYKE NET	24-Apr-08	6774445	NORTHERN PIKE	3
NETTING	FYKE NET	24-Apr-08	6774446	NORTHERN PIKE	3
NETTING	FYKE NET	24-Apr-08	6774447	NORTHERN PIKE	4
NETTING	FYKE NET	24-Apr-08	6774448	NORTHERN PIKE	4
NETTING	FYKE NET	24-Apr-08	6774449	NORTHERN PIKE	2
NETTING	FYKE NET	24-Apr-08	6774450	NORTHERN PIKE	2
NETTING	FYKE NET	24-Apr-08	6774451	NORTHERN PIKE	4
NETTING	FYKE NET	24-Apr-08	6774452	NORTHERN PIKE	2
NETTING	FYKE NET	24-Apr-08	6774453	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-08	6774454	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-08	6774455	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-08	6774456	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-08	6774457	NORTHERN PIKE	2
NETTING	FYKE NET	24-Apr-08	6774458	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-08	6774459	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-08	6774460	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-08	6774461	NORTHERN PIKE	2
NETTING	FYKE NET	24-Apr-08	6774462	NORTHERN PIKE	2
NETTING	FYKE NET	24-Apr-08	6774463	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-08	6774464	NORTHERN PIKE	2
NETTING	FYKE NET	24-Apr-08	6774465	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-08	6774466	NORTHERN PIKE	2
NETTING	FYKE NET	24-Apr-08	6774467	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-08	6774468	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-08	6774469	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-08	6774470	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-08	6774471	NORTHERN PIKE	3
NETTING	FYKE NET	24-Apr-08	6774472	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-08	6774473	NORTHERN PIKE	2
NETTING	FYKE NET	24-Apr-08	6774474	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-08	6774475	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-08	6774476	NORTHERN PIKE	2
NETTING	FYKE NET	24-Apr-08	6774477	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-08	6774478	NORTHERN PIKE	2
NETTING	FYKE NET	24-Apr-08	6774479	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-08	6774480	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-08	6774481	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-08	6774482	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-08	6774483	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-08	6774589	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-08	6774590	NORTHERN PIKE	2
NETTING	FYKE NET	25-Apr-08	6774591	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-08	6774592	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-08	6774593	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-08	6774594	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-08	6774595	NORTHERN PIKE	2
NETTING	FYKE NET	25-Apr-08	6774596	NORTHERN PIKE	1

NETTING	FYKE NET	25-Apr-08	6774597	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-08	6774598	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-08	6774599	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-08	6774600	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-08	6774601	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-08	6774602	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-08	6774603	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-08	6774604	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-08	6774605	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-08	6774606	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-08	6774607	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-08	6774608	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-08	6774609	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-08	6774610	NORTHERN PIKE	2
NETTING	FYKE NET	25-Apr-08	6774611	NORTHERN PIKE	3
NETTING	FYKE NET	25-Apr-08	6774612	NORTHERN PIKE	5
NETTING	FYKE NET	25-Apr-08	6774613	NORTHERN PIKE	2
NETTING	FYKE NET	25-Apr-08	6774614	NORTHERN PIKE	2
NETTING	FYKE NET	25-Apr-08	6774615	NORTHERN PIKE	2
NETTING	FYKE NET	25-Apr-08	6774616	NORTHERN PIKE	4
NETTING	FYKE NET	25-Apr-08	6774617	NORTHERN PIKE	3
NETTING	FYKE NET	25-Apr-08	6774618	NORTHERN PIKE	2
NETTING	FYKE NET	25-Apr-08	6774619	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-08	6774620	NORTHERN PIKE	3
NETTING	FYKE NET	25-Apr-08	6774621	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-08	6774622	NORTHERN PIKE	3
NETTING	FYKE NET	25-Apr-08	6774623	NORTHERN PIKE	5
NETTING	FYKE NET	25-Apr-08	6774624	NORTHERN PIKE	4
NETTING	FYKE NET	25-Apr-08	6774625	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-08	6774626	NORTHERN PIKE	2
NETTING	FYKE NET	25-Apr-08	6774627	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-08	6774628	NORTHERN PIKE	2
NETTING	FYKE NET	25-Apr-08	6774629	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-08	6774630	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-08	6774631	NORTHERN PIKE	2
NETTING	FYKE NET	25-Apr-08	6774632	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-08	6774633	NORTHERN PIKE	2
NETTING	FYKE NET	25-Apr-08	6774634	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-08	6774635	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-08	6774636	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-08	6774637	NORTHERN PIKE	2
NETTING	FYKE NET	25-Apr-08	6774638	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-08	6774639	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-08	6774640	NORTHERN PIKE	2
NETTING	FYKE NET	25-Apr-08	6774641	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-08	6774642	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-08	6774643	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-08	6774644	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-08	6774645	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-08	6774646	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-08	6774647	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-08	6774648	NORTHERN PIKE	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783737	NORTHERN PIKE	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783738	NORTHERN PIKE	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783739	NORTHERN PIKE	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783740	NORTHERN PIKE	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783741	NORTHERN PIKE	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783742	NORTHERN PIKE	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783743	NORTHERN PIKE	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783744	NORTHERN PIKE	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783745	NORTHERN PIKE	1

ELECTROFIS	BOOM SHOCKE	9-Jun-08	6783746	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKE	9-Jun-08	6783747	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKE	9-Jun-08	6783748	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKE	9-Jun-08	6783749	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKE	9-Jun-08	6783750	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKE	9-Jun-08	6783769	NORTHERN PIKE	2
ELECTROFIS	BOOM SHOCKE	9-Jun-08	6783770	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKE	9-Jun-08	6783771	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKE	9-Jun-08	6783772	NORTHERN PIKE	2
ELECTROFIS	BOOM SHOCKE	9-Jun-08	6783773	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKE	9-Jun-08	6783774	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKE	9-Jun-08	6783775	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKE	9-Jun-08	6783776	NORTHERN PIKE	1
ELECTROFIS	BOOM SHOCKE	9-Jun-08	6783777	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968022	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968023	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968024	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968025	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968026	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968027	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968028	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968029	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968030	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968031	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968032	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968033	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968034	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968035	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968036	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968037	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968038	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968039	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968040	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968041	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968042	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968043	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968044	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968045	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968046	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968047	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968048	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968049	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968050	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968051	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968052	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968053	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968054	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968055	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968056	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968057	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968058	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968059	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968060	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968061	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968062	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968063	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968064	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968065	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968066	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968067	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968068	NORTHERN PIKE	1

NETTING	FYKE NET	2-May-13	9968069	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968070	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968071	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968072	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968073	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968074	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968075	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968076	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968077	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968078	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968079	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968080	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968081	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968082	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968083	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968084	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968085	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968086	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968087	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968088	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968089	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968090	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968091	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968092	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968093	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968094	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968095	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968096	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968097	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968098	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968099	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968100	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968101	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968102	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968103	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968104	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968105	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968106	NORTHERN PIKE	1
NETTING	FYKE NET	2-May-13	9968107	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379732	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379733	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379734	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379735	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379736	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379738	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379739	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379740	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379743	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379746	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379747	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379748	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379749	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379750	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379753	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379754	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379755	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379756	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379759	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379772	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379775	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379776	NORTHERN PIKE	1

NETTING	FYKE NET	23-Apr-14	10379785	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379788	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379790	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379792	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379802	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379823	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379824	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379825	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379826	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379827	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379831	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379832	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379833	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379834	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379835	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379836	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379837	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379838	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379839	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379840	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379842	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379843	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379844	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379845	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379848	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379849	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379850	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379851	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379852	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379853	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379854	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379857	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379858	NORTHERN PIKE	1
NETTING	FYKE NET	23-Apr-14	10379866	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379886	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379887	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379888	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379891	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379893	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379894	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379895	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379896	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379897	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379898	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379899	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379900	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379901	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379902	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379904	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379906	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379908	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379909	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379910	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379911	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379912	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379913	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379914	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379916	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379917	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379918	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379919	NORTHERN PIKE	1

NETTING	FYKE NET	24-Apr-14	10379920	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379921	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379922	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379923	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379924	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379925	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379926	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379927	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379929	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379931	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379932	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379933	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379938	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379939	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379941	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379945	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379946	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379947	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379948	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379949	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379950	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379951	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379955	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379956	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379957	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379958	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379959	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379960	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379961	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379962	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379963	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379967	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379968	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379969	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379970	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379971	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379972	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379974	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379975	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379976	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379977	NORTHERN PIKE	1
NETTING	FYKE NET	24-Apr-14	10379978	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380165	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380166	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380167	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380170	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380171	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380173	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380174	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380175	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380176	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380177	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380178	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380179	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380180	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380181	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380182	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380183	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380184	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380185	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380186	NORTHERN PIKE	1

NETTING	FYKE NET	25-Apr-14	10380187	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380188	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380189	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380190	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380191	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380192	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380199	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380200	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380201	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380202	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380203	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380206	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380207	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380208	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380209	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380210	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380211	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380214	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380215	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380216	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380217	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380226	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380227	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380228	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380229	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380230	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380231	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380232	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380247	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380248	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380249	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380250	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380251	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380255	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380256	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380257	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380258	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380259	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380260	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380261	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380273	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380274	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380275	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380276	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380277	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380278	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380279	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380280	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380281	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380282	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380290	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380291	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380292	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380293	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380294	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380295	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380296	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380297	NORTHERN PIKE	1
NETTING	FYKE NET	25-Apr-14	10380298	NORTHERN PIKE	1
NETTING	FYKE NET	26-Apr-14	10380303	NORTHERN PIKE	1
NETTING	FYKE NET	26-Apr-14	10380304	NORTHERN PIKE	1

NETTING	FYKE NET	26-Apr-14	10380308	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380309	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380310	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380311	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380312	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380313	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380314	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380315	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380316	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380317	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380318	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380319	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380320	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380321	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380322	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380323	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380327	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380328	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380330	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380331	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380334	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380338	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380339	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380340	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380341	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380342	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380344	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380345	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380363	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380364	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380365	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380366	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380370	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380371	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380372	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380373	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380374	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380375	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380384	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380385	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380386	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380387	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380388	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380391	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380392	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380393	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380394	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380407	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380408	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380409	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380410	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380411	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380412	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380413	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380414	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380415	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380416	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380417	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380423	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380428	NORTHERN PIKE	1		
NETTING	FYKE NET	26-Apr-14	10380432	NORTHERN PIKE	1	953	11.03%

NETTING	FYKE NET	25-Apr-08	6774660	NORTHERN PIKE X MUSKELLUNGE	1		
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783850	NORTHERN PIKE X MUSKELLUNGE	1	2	0.02%
NETTING	FYKE NET	8-Apr-05	4002724	PUGNOSE SHINER	1	1	0.01%
ELECTROFI!	BOOM SHOCKEI	27-Oct-65	8223501	PUMPKINSEED	1		
ELECTROFI!	BOOM SHOCKEI	27-Oct-65	8223502	PUMPKINSEED	1		
ELECTROFI!	BOOM SHOCKEI	27-Oct-65	8223503	PUMPKINSEED	1		
ELECTROFI!	BOOM SHOCKEI	27-Oct-65	8223504	PUMPKINSEED	1		
NETTING	FYKE NET	28-May-02	2088780	PUMPKINSEED	173		
NETTING	FYKE NET	28-May-02	2088781	PUMPKINSEED	12		
NETTING	FYKE NET	28-May-02	2088782	PUMPKINSEED	12		
NETTING	FYKE NET	28-May-02	2088783	PUMPKINSEED	12		
NETTING	FYKE NET	28-May-02	2088784	PUMPKINSEED	10		
NETTING	FYKE NET	28-May-02	2088785	PUMPKINSEED	4		
NETTING	FYKE NET	28-May-02	2088786	PUMPKINSEED	2		
NETTING	FYKE NET	28-May-02	2088787	PUMPKINSEED	4		
ELECTROFI!	BOOM SHOCKEI	26-Sep-02	13422154	PUMPKINSEED	10		
NETTING	FYKE NET	8-Jun-03	2107201	PUMPKINSEED	25		
NETTING	FYKE NET	8-Jun-03	2107204	PUMPKINSEED	6		
NETTING	FYKE NET	8-Jun-03	2107206	PUMPKINSEED	33		
NETTING	FYKE NET	8-Jun-03	2107222	PUMPKINSEED	6		
NETTING	FYKE NET	8-Jun-03	2107223	PUMPKINSEED	6		
NETTING	FYKE NET	8-Jun-03	2107224	PUMPKINSEED	8		
NETTING	FYKE NET	8-Jun-03	2107225	PUMPKINSEED	19		
NETTING	FYKE NET	8-Jun-03	2107226	PUMPKINSEED	16		
NETTING	FYKE NET	8-Jun-03	2107227	PUMPKINSEED	6		
NETTING	FYKE NET	9-Jun-03	2107236	PUMPKINSEED	6		
NETTING	FYKE NET	9-Jun-03	2107238	PUMPKINSEED	125		
NETTING	FYKE NET	9-Jun-03	2107255	PUMPKINSEED	2		
NETTING	FYKE NET	9-Jun-03	2107256	PUMPKINSEED	5		
NETTING	FYKE NET	9-Jun-03	2107257	PUMPKINSEED	14		
NETTING	FYKE NET	9-Jun-03	2107258	PUMPKINSEED	11		
NETTING	FYKE NET	9-Jun-03	2107259	PUMPKINSEED	28		
NETTING	FYKE NET	9-Jun-03	2107260	PUMPKINSEED	27		
NETTING	FYKE NET	9-Jun-03	2107261	PUMPKINSEED	8		
NETTING	FYKE NET	9-Jun-03	2107262	PUMPKINSEED	2		
NETTING	FYKE NET	9-Jun-03	2107263	PUMPKINSEED	1		
NETTING	FYKE NET	10-Jun-03	2107273	PUMPKINSEED	14		
NETTING	FYKE NET	10-Jun-03	2107275	PUMPKINSEED	26		
NETTING	FYKE NET	10-Jun-03	2107279	PUMPKINSEED	58		
NETTING	FYKE NET	13-Jun-03	2107284	PUMPKINSEED	10		
NETTING	FYKE NET	13-Jun-03	2107289	PUMPKINSEED	47		
NETTING	FYKE NET	13-Jun-03	2107295	PUMPKINSEED	40		
NETTING	FYKE NET	13-Jun-03	2107298	PUMPKINSEED	7		
NETTING	FYKE NET	13-Jun-03	2107299	PUMPKINSEED	3		
NETTING	FYKE NET	13-Jun-03	2107300	PUMPKINSEED	4		
NETTING	FYKE NET	13-Jun-03	2107301	PUMPKINSEED	2		
NETTING	FYKE NET	13-Jun-03	2107302	PUMPKINSEED	6		
NETTING	FYKE NET	13-Jun-03	2107303	PUMPKINSEED	20		
NETTING	FYKE NET	13-Jun-03	2107304	PUMPKINSEED	20		
NETTING	FYKE NET	13-Jun-03	2107305	PUMPKINSEED	27		
NETTING	FYKE NET	13-Jun-03	2107306	PUMPKINSEED	11		
NETTING	FYKE NET	13-Jun-03	2107307	PUMPKINSEED	2		
NETTING	FYKE NET	14-Jun-03	2107331	PUMPKINSEED	62		
NETTING	FYKE NET	14-Jun-03	2107341	PUMPKINSEED	20		
NETTING	FYKE NET	14-Jun-03	2107345	PUMPKINSEED	26		
NETTING	FYKE NET	15-Jun-03	2104404	PUMPKINSEED	7		
NETTING	FYKE NET	15-Jun-03	2104405	PUMPKINSEED	3		
NETTING	FYKE NET	15-Jun-03	2104406	PUMPKINSEED	6		
NETTING	FYKE NET	15-Jun-03	2104407	PUMPKINSEED	7		
NETTING	FYKE NET	15-Jun-03	2104408	PUMPKINSEED	20		
NETTING	FYKE NET	15-Jun-03	2104409	PUMPKINSEED	31		

NETTING	FYKE NET	15-Jun-03	2104410	PUMPKINSEED	48
NETTING	FYKE NET	15-Jun-03	2104411	PUMPKINSEED	54
NETTING	FYKE NET	15-Jun-03	2104412	PUMPKINSEED	19
NETTING	FYKE NET	15-Jun-03	2104413	PUMPKINSEED	4
NETTING	FYKE NET	15-Jun-03	2104414	PUMPKINSEED	1
NETTING	FYKE NET	15-Jun-03	2107364	PUMPKINSEED	57
NETTING	FYKE NET	15-Jun-03	2107369	PUMPKINSEED	30
NETTING	FYKE NET	15-Jun-03	2107375	PUMPKINSEED	40
NETTING	MINI FYKE NET '	15-Jul-03	2115234	PUMPKINSEED	1
NETTING	MINI FYKE NET '	15-Jul-03	2115256	PUMPKINSEED	1
NETTING	MINI FYKE NET '	15-Jul-03	2115271	PUMPKINSEED	4
NETTING	MINI FYKE NET '	15-Jul-03	2115272	PUMPKINSEED	2
NETTING	MINI FYKE NET '	15-Jul-03	2115273	PUMPKINSEED	5
NETTING	MINI FYKE NET '	15-Jul-03	2115274	PUMPKINSEED	5
NETTING	MINI FYKE NET '	15-Jul-03	2115275	PUMPKINSEED	4
NETTING	MINI FYKE NET '	15-Jul-03	2115276	PUMPKINSEED	7
NETTING	MINI FYKE NET '	15-Jul-03	2115277	PUMPKINSEED	2
NETTING	MINI FYKE NET '	15-Jul-03	2115278	PUMPKINSEED	1
NETTING	MINI FYKE NET '	16-Jul-03	2115297	PUMPKINSEED	1
NETTING	MINI FYKE NET '	16-Jul-03	2115298	PUMPKINSEED	3
NETTING	MINI FYKE NET '	16-Jul-03	2115299	PUMPKINSEED	2
NETTING	MINI FYKE NET '	16-Jul-03	2115300	PUMPKINSEED	7
NETTING	MINI FYKE NET '	16-Jul-03	2115301	PUMPKINSEED	5
NETTING	MINI FYKE NET '	16-Jul-03	2115302	PUMPKINSEED	7
NETTING	MINI FYKE NET '	16-Jul-03	2115303	PUMPKINSEED	6
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149523	PUMPKINSEED	1
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149524	PUMPKINSEED	1
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149525	PUMPKINSEED	1
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149526	PUMPKINSEED	1
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149527	PUMPKINSEED	1
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149589	PUMPKINSEED	1
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149590	PUMPKINSEED	1
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149591	PUMPKINSEED	1
OTHER	HOOK AND LINE	11-May-05	2740672	PUMPKINSEED	1
OTHER	HOOK AND LINE	11-May-05	2740673	PUMPKINSEED	2
OTHER	HOOK AND LINE	11-May-05	2740674	PUMPKINSEED	1
OTHER	HOOK AND LINE	11-May-05	2740675	PUMPKINSEED	2
ELECTROFI!	BOOM SHOCKEI	4-Oct-07	6057591	PUMPKINSEED	1
ELECTROFI!	BOOM SHOCKEI	4-Oct-07	6057592	PUMPKINSEED	1
ELECTROFI!	BOOM SHOCKEI	4-Oct-07	6057593	PUMPKINSEED	2
ELECTROFI!	BOOM SHOCKEI	4-Oct-07	6057594	PUMPKINSEED	2
ELECTROFI!	BOOM SHOCKEI	4-Oct-07	6057595	PUMPKINSEED	2
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783298	PUMPKINSEED	2
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783299	PUMPKINSEED	2
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783300	PUMPKINSEED	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783301	PUMPKINSEED	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783302	PUMPKINSEED	2
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783303	PUMPKINSEED	5
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783304	PUMPKINSEED	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783305	PUMPKINSEED	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783306	PUMPKINSEED	3
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783307	PUMPKINSEED	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783308	PUMPKINSEED	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783309	PUMPKINSEED	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783310	PUMPKINSEED	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783311	PUMPKINSEED	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783312	PUMPKINSEED	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783313	PUMPKINSEED	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783314	PUMPKINSEED	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783315	PUMPKINSEED	1
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783316	PUMPKINSEED	1

ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783317	PUMPKINSEED	1		
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783318	PUMPKINSEED	1		
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783621	PUMPKINSEED	2		
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783622	PUMPKINSEED	2		
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783623	PUMPKINSEED	1		
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783624	PUMPKINSEED	1		
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783625	PUMPKINSEED	1		
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783626	PUMPKINSEED	1		
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783627	PUMPKINSEED	1		
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783628	PUMPKINSEED	2		
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783629	PUMPKINSEED	1		
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783630	PUMPKINSEED	1		
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783631	PUMPKINSEED	1		
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783632	PUMPKINSEED	1		
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783633	PUMPKINSEED	1		
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783634	PUMPKINSEED	1		
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783635	PUMPKINSEED	1		
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783636	PUMPKINSEED	1		
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783637	PUMPKINSEED	3		
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783638	PUMPKINSEED	1		
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783639	PUMPKINSEED	2		
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783640	PUMPKINSEED	4		
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783641	PUMPKINSEED	1		
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783642	PUMPKINSEED	1		
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783643	PUMPKINSEED	1		
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783644	PUMPKINSEED	1		
NETTING	FYKE NET	23-Apr-14	10379762	PUMPKINSEED	1		
NETTING	FYKE NET	23-Apr-14	10379789	PUMPKINSEED	1		
NETTING	FYKE NET	23-Apr-14	10379791	PUMPKINSEED	1		
NETTING	FYKE NET	23-Apr-14	10379795	PUMPKINSEED	1		
NETTING	FYKE NET	24-Apr-14	10379873	PUMPKINSEED	1		
NETTING	FYKE NET	24-Apr-14	10379937	PUMPKINSEED	1		
NETTING	FYKE NET	24-Apr-14	10380016	PUMPKINSEED	1		
NETTING	FYKE NET	24-Apr-14	10380017	PUMPKINSEED	1		
NETTING	FYKE NET	24-Apr-14	10380018	PUMPKINSEED	1		
NETTING	FYKE NET	24-Apr-14	10380019	PUMPKINSEED	1		
NETTING	FYKE NET	24-Apr-14	10380020	PUMPKINSEED	1		
NETTING	FYKE NET	24-Apr-14	10380021	PUMPKINSEED	1		
NETTING	FYKE NET	24-Apr-14	10380118	PUMPKINSEED	1		
NETTING	FYKE NET	24-Apr-14	10380119	PUMPKINSEED	1		
NETTING	FYKE NET	26-Apr-14	10380422	PUMPKINSEED	2	1493	17.28%
ELECTROFI!	BOOM SHOCKEI	27-Oct-65	8223481	REDHORSES	1		
ELECTROFI!	BOOM SHOCKEI	27-Oct-65	8223496	ROCK BASS	1		
ELECTROFI!	BOOM SHOCKEI	27-Oct-65	8223497	ROCK BASS	1		
ELECTROFI!	BOOM SHOCKEI	27-Oct-65	8223498	ROCK BASS	1		
ELECTROFI!	BOOM SHOCKEI	27-Oct-65	8223499	ROCK BASS	1		
ELECTROFI!	BOOM SHOCKEI	27-Oct-65	8223500	ROCK BASS	1		
NETTING	FYKE NET	13-Jun-03	2107325	ROCK BASS	1		
NETTING	FYKE NET	14-Jun-03	2107338	ROCK BASS	1		
NETTING	FYKE NET	15-Jun-03	2104423	ROCK BASS	1		
NETTING	FYKE NET	15-Jun-03	2104424	ROCK BASS	1		
NETTING	FYKE NET	10-Apr-05	4002787	ROCK BASS	1		
ELECTROFI!	BOOM SHOCKEI	9-Jun-08	6783684	ROCK BASS	1	12	0.14%
NETTING	FYKE NET	10-Apr-05	4002781	SHORTHEAD REDHORSE	1		
NETTING	FYKE NET	11-Apr-05	4002775	SHORTHEAD REDHORSE	1		
NETTING	FYKE NET	11-Apr-05	4002776	SHORTHEAD REDHORSE	1		
ELECTROFI!	BOOM SHOCKEI	4-Oct-07	6057497	SHORTHEAD REDHORSE	1		
ELECTROFI!	BOOM SHOCKEI	4-Oct-07	6057565	SHORTHEAD REDHORSE	1		
ELECTROFI!	BOOM SHOCKEI	4-Oct-07	6057566	SHORTHEAD REDHORSE	1		
NETTING	FYKE NET	24-Apr-08	6774499	SHORTHEAD REDHORSE	1		
NETTING	FYKE NET	25-Apr-08	6774665	SHORTHEAD REDHORSE	1		

NETTING	FYKE NET	25-Apr-08	6774666	SHORTHEAD REDHORSE	1		
NETTING	FYKE NET	25-Apr-08	6774667	SHORTHEAD REDHORSE	1		
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783332	SHORTHEAD REDHORSE	1		
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783680	SHORTHEAD REDHORSE	1		
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783681	SHORTHEAD REDHORSE	1		
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783682	SHORTHEAD REDHORSE	1	14	0.16%
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724781	SILVER REDHORSE	1	1	0.01%
ELECTROFIS	BOOM SHOCKEI	25-Sep-06	3868326	SMALLMOUTH BASS	1		
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783755	SMALLMOUTH BASS	1		
NETTING	FYKE NET	2-May-13	9967987	SMALLMOUTH BASS	1	3	0.03%
ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223464	SUCKERS	1		
ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223465	SUCKERS	1		
ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223466	SUCKERS	2		
ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223467	SUCKERS	1		
ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223468	SUCKERS	1		
ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223469	SUCKERS	1		
ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223470	SUCKERS	1		
ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223471	SUCKERS	1		
ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223472	SUCKERS	3		
ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223473	SUCKERS	2		
ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223474	SUCKERS	1		
ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223475	SUCKERS	1		
ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223476	SUCKERS	1		
ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223477	SUCKERS	1		
ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223478	SUCKERS	1		
ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223479	SUCKERS	1		
ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223480	SUCKERS	1	21	0.24%
NETTING	FYKE NET	11-Apr-05	4002773	TADPOLE MADTOM	1		
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783687	TADPOLE MADTOM	1	2	0.02%
ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223525	WALLEYE	1		
ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223526	WALLEYE	1		
ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223527	WALLEYE	1		
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068890	WALLEYE	19		
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068891	WALLEYE	22		
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068892	WALLEYE	11		
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068893	WALLEYE	1		
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068894	WALLEYE	1		
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068895	WALLEYE	1		
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068896	WALLEYE	6		
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068897	WALLEYE	3		
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068898	WALLEYE	2		
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068899	WALLEYE	2		
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068900	WALLEYE	1		
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068901	WALLEYE	2		
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068902	WALLEYE	1		
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068903	WALLEYE	2		
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068904	WALLEYE	1		
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068905	WALLEYE	1		
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068906	WALLEYE	2		
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068907	WALLEYE	1		
ELECTROFIS	BOOM SHOCKEI	3-Oct-01	2068908	WALLEYE	1		
NETTING	FYKE NET	28-May-02	2088797	WALLEYE	1		
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	1998655	WALLEYE	1		
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	1998656	WALLEYE	1		
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	1998657	WALLEYE	2		
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	1998658	WALLEYE	2		
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	1998659	WALLEYE	2		
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	1998660	WALLEYE	2		
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	1998661	WALLEYE	2		
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	1998662	WALLEYE	4		
ELECTROFIS	BOOM SHOCKEI	26-Sep-02	1998663	WALLEYE	1		

ELECTROFI!	BOOM SHOCKEI	26-Sep-02	1998664	WALLEYE	1
ELECTROFI!	BOOM SHOCKEI	26-Sep-02	1998665	WALLEYE	2
ELECTROFI!	BOOM SHOCKEI	26-Sep-02	1998666	WALLEYE	1
ELECTROFI!	BOOM SHOCKEI	26-Sep-02	1998667	WALLEYE	1
ELECTROFI!	BOOM SHOCKEI	26-Sep-02	1998668	WALLEYE	1
ELECTROFI!	BOOM SHOCKEI	26-Sep-02	1998669	WALLEYE	1
ELECTROFI!	BOOM SHOCKEI	26-Sep-02	1998670	WALLEYE	1
ELECTROFI!	BOOM SHOCKEI	26-Sep-02	1998671	WALLEYE	1
NETTING	FYKE NET	10-Jun-03	2107280	WALLEYE	1
NETTING	FYKE NET	14-Jun-03	2107342	WALLEYE	1
NETTING	FYKE NET	14-Jun-03	2107346	WALLEYE	1
NETTING	FYKE NET	15-Jun-03	2104426	WALLEYE	1
NETTING	FYKE NET	15-Jun-03	2104427	WALLEYE	1
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149303	WALLEYE	1
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149304	WALLEYE	5
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149305	WALLEYE	7
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149306	WALLEYE	6
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149307	WALLEYE	5
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149308	WALLEYE	2
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149309	WALLEYE	2
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149310	WALLEYE	1
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149311	WALLEYE	2
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149312	WALLEYE	1
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149439	WALLEYE	1
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149440	WALLEYE	1
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149441	WALLEYE	1
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149442	WALLEYE	1
ELECTROFI!	BOOM SHOCKEI	6-Oct-04	2724712	WALLEYE	4
ELECTROFI!	BOOM SHOCKEI	6-Oct-04	2724713	WALLEYE	1
ELECTROFI!	BOOM SHOCKEI	6-Oct-04	2724714	WALLEYE	3
ELECTROFI!	BOOM SHOCKEI	6-Oct-04	2724715	WALLEYE	1
ELECTROFI!	BOOM SHOCKEI	6-Oct-04	2724716	WALLEYE	1
ELECTROFI!	BOOM SHOCKEI	6-Oct-04	2724717	WALLEYE	2
ELECTROFI!	BOOM SHOCKEI	6-Oct-04	2724718	WALLEYE	1
ELECTROFI!	BOOM SHOCKEI	6-Oct-04	2724719	WALLEYE	2
ELECTROFI!	BOOM SHOCKEI	6-Oct-04	2724720	WALLEYE	1
ELECTROFI!	BOOM SHOCKEI	6-Oct-04	2724721	WALLEYE	1
ELECTROFI!	BOOM SHOCKEI	6-Oct-04	2724722	WALLEYE	2
ELECTROFI!	BOOM SHOCKEI	6-Oct-04	2724723	WALLEYE	1
ELECTROFI!	BOOM SHOCKEI	6-Oct-04	2724724	WALLEYE	1
ELECTROFI!	MINI BOOM SH	11-Apr-05	2740646	WALLEYE	1
ELECTROFI!	MINI BOOM SH	11-Apr-05	2740647	WALLEYE	2
ELECTROFI!	MINI BOOM SH	11-Apr-05	2740648	WALLEYE	1
ELECTROFI!	MINI BOOM SH	11-Apr-05	2740649	WALLEYE	1
ELECTROFI!	MINI BOOM SH	11-Apr-05	2740650	WALLEYE	1
ELECTROFI!	MINI BOOM SH	11-Apr-05	2740651	WALLEYE	1
ELECTROFI!	MINI BOOM SH	11-Apr-05	2740652	WALLEYE	2
ELECTROFI!	MINI BOOM SH	11-Apr-05	2740653	WALLEYE	1
ELECTROFI!	MINI BOOM SH	11-Apr-05	2740654	WALLEYE	1
ELECTROFI!	MINI BOOM SH	11-Apr-05	2740655	WALLEYE	1
ELECTROFI!	MINI BOOM SH	11-Apr-05	2740656	WALLEYE	1
ELECTROFI!	MINI BOOM SH	11-Apr-05	2740657	WALLEYE	1
ELECTROFI!	MINI BOOM SH	11-Apr-05	2740658	WALLEYE	1
ELECTROFI!	MINI BOOM SH	11-Apr-05	2740659	WALLEYE	1
ELECTROFI!	MINI BOOM SH	11-Apr-05	2740660	WALLEYE	1
ELECTROFI!	BOOM SHOCKEI	25-Sep-06	3868302	WALLEYE	1
ELECTROFI!	BOOM SHOCKEI	25-Sep-06	3868303	WALLEYE	2
ELECTROFI!	BOOM SHOCKEI	25-Sep-06	3868304	WALLEYE	1
ELECTROFI!	BOOM SHOCKEI	25-Sep-06	3868305	WALLEYE	1
ELECTROFI!	BOOM SHOCKEI	25-Sep-06	3868306	WALLEYE	1
ELECTROFI!	BOOM SHOCKEI	25-Sep-06	3868307	WALLEYE	1

ELECTROFIS	BOOM SHOCKEI	25-Sep-06	3868308	WALLEYE	1		
ELECTROFIS	BOOM SHOCKEI	25-Sep-06	3868309	WALLEYE	1		
ELECTROFIS	BOOM SHOCKEI	25-Sep-06	3868310	WALLEYE	1		
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057382	WALLEYE	1		
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057383	WALLEYE	1		
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057384	WALLEYE	1		
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057385	WALLEYE	2		
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057386	WALLEYE	1		
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057387	WALLEYE	3		
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057388	WALLEYE	2		
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057389	WALLEYE	1		
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057550	WALLEYE	1		
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057551	WALLEYE	1		
NETTING	FYKE NET	24-Apr-08	6774493	WALLEYE	3		
NETTING	FYKE NET	24-Apr-08	6774494	WALLEYE	1		
NETTING	FYKE NET	24-Apr-08	6774495	WALLEYE	1		
NETTING	FYKE NET	24-Apr-08	6774496	WALLEYE	1		
NETTING	FYKE NET	24-Apr-08	6774497	WALLEYE	1		
NETTING	FYKE NET	24-Apr-08	6774498	WALLEYE	2		
NETTING	FYKE NET	25-Apr-08	6774654	WALLEYE	1		
NETTING	FYKE NET	25-Apr-08	6774655	WALLEYE	1		
NETTING	FYKE NET	25-Apr-08	6774656	WALLEYE	1		
NETTING	FYKE NET	25-Apr-08	6774657	WALLEYE	1		
NETTING	FYKE NET	25-Apr-08	6774658	WALLEYE	1		
NETTING	FYKE NET	25-Apr-08	6774659	WALLEYE	1		
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783751	WALLEYE	1		
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783752	WALLEYE	1		
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783753	WALLEYE	1		
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783754	WALLEYE	1		
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783840	WALLEYE	1		
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783841	WALLEYE	1		
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783842	WALLEYE	1		
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783843	WALLEYE	1		
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783844	WALLEYE	1		
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783845	WALLEYE	1		
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783846	WALLEYE	1		
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783847	WALLEYE	2		
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783848	WALLEYE	2		
NETTING	FYKE NET	2-May-13	9968018	WALLEYE	1		
NETTING	FYKE NET	2-May-13	9968019	WALLEYE	1		
NETTING	FYKE NET	2-May-13	9968020	WALLEYE	1		
NETTING	FYKE NET	23-Apr-14	10379779	WALLEYE	1		
NETTING	FYKE NET	23-Apr-14	10379780	WALLEYE	1		
NETTING	FYKE NET	23-Apr-14	10379781	WALLEYE	1		
NETTING	FYKE NET	23-Apr-14	10379812	WALLEYE	1		
NETTING	FYKE NET	24-Apr-14	10379889	WALLEYE	1		
NETTING	FYKE NET	24-Apr-14	10379892	WALLEYE	1		
NETTING	FYKE NET	24-Apr-14	10379903	WALLEYE	1		
NETTING	FYKE NET	24-Apr-14	10379915	WALLEYE	1		
NETTING	FYKE NET	25-Apr-14	10380193	WALLEYE	1		
NETTING	FYKE NET	25-Apr-14	10380252	WALLEYE	1		
NETTING	FYKE NET	26-Apr-14	10380343	WALLEYE	1		
NETTING	FYKE NET	26-Apr-14	10380427	WALLEYE	1	258	2.99%
NETTING	FYKE NET	28-May-02	2088795	WHITE SUCKER	1		
NETTING	FYKE NET	28-May-02	2088796	WHITE SUCKER	1		
NETTING	FYKE NET	9-Jun-03	2107252	WHITE SUCKER	1		
NETTING	FYKE NET	13-Jun-03	2107297	WHITE SUCKER	1		
NETTING	FYKE NET	13-Jun-03	2107328	WHITE SUCKER	1		
NETTING	FYKE NET	15-Jun-03	2104438	WHITE SUCKER	1		
NETTING	MINI FYKE NET '	16-Jul-03	2115314	WHITE SUCKER	1		
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149342	WHITE SUCKER	1		

ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149497	WHITE SUCKER	1		
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149498	WHITE SUCKER	1		
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149499	WHITE SUCKER	1		
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149500	WHITE SUCKER	1		
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149501	WHITE SUCKER	2		
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149561	WHITE SUCKER	1		
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149562	WHITE SUCKER	1		
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149563	WHITE SUCKER	1		
ELECTROFIS	BOOM SHOCKEI	1-Oct-03	2149564	WHITE SUCKER	1		
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724778	WHITE SUCKER	3		
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724779	WHITE SUCKER	3		
ELECTROFIS	BOOM SHOCKEI	6-Oct-04	2724780	WHITE SUCKER	3		
NETTING	FYKE NET	8-Apr-05	4002725	WHITE SUCKER	1		
NETTING	FYKE NET	8-Apr-05	4002726	WHITE SUCKER	1		
NETTING	FYKE NET	9-Apr-05	4002730	WHITE SUCKER	1		
NETTING	FYKE NET	10-Apr-05	4002780	WHITE SUCKER	1		
NETTING	FYKE NET	10-Apr-05	4002785	WHITE SUCKER	1		
NETTING	FYKE NET	11-Apr-05	4002770	WHITE SUCKER	1		
NETTING	FYKE NET	11-Apr-05	4002771	WHITE SUCKER	1		
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057486	WHITE SUCKER	1		
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057487	WHITE SUCKER	1		
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057494	WHITE SUCKER	1		
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057496	WHITE SUCKER	1		
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057503	WHITE SUCKER	1		
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057562	WHITE SUCKER	1		
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057563	WHITE SUCKER	1		
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057564	WHITE SUCKER	1		
NETTING	FYKE NET	24-Apr-08	6774500	WHITE SUCKER	1		
NETTING	FYKE NET	24-Apr-08	6774501	WHITE SUCKER	1		
NETTING	FYKE NET	24-Apr-08	6774502	WHITE SUCKER	1		
NETTING	FYKE NET	24-Apr-08	6774503	WHITE SUCKER	1		
NETTING	FYKE NET	24-Apr-08	6774504	WHITE SUCKER	1		
NETTING	FYKE NET	25-Apr-08	6774661	WHITE SUCKER	1		
NETTING	FYKE NET	25-Apr-08	6774662	WHITE SUCKER	1		
NETTING	FYKE NET	25-Apr-08	6774663	WHITE SUCKER	1		
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783333	WHITE SUCKER	1		
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783334	WHITE SUCKER	2		
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783335	WHITE SUCKER	1		
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783336	WHITE SUCKER	1		
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783337	WHITE SUCKER	1		
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783338	WHITE SUCKER	1		
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783339	WHITE SUCKER	2		
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783340	WHITE SUCKER	1		
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783341	WHITE SUCKER	1		
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783342	WHITE SUCKER	1		
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783343	WHITE SUCKER	1		
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783344	WHITE SUCKER	1		
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783345	WHITE SUCKER	1		
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783346	WHITE SUCKER	1		
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783683	WHITE SUCKER	1	67	0.78%
ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223482	YELLOW BULLHEAD	1		
ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223483	YELLOW BULLHEAD	1		
ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223484	YELLOW BULLHEAD	1		
ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223485	YELLOW BULLHEAD	1		
ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223486	YELLOW BULLHEAD	1		
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057499	YELLOW BULLHEAD	1		
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057500	YELLOW BULLHEAD	1		
NETTING	FYKE NET	24-Apr-08	6774510	YELLOW BULLHEAD	2		
NETTING	FYKE NET	25-Apr-08	6774670	YELLOW BULLHEAD	3	12	0.14%
ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223519	YELLOW PERCH	1		
ELECTROFIS	BOOM SHOCKEI	27-Oct-65	8223520	YELLOW PERCH	1		

ELECTROFI!	BOOM SHOCKEI	27-Oct-65	8223521	YELLOW PERCH	1
ELECTROFI!	BOOM SHOCKEI	27-Oct-65	8223522	YELLOW PERCH	1
ELECTROFI!	BOOM SHOCKEI	27-Oct-65	8223523	YELLOW PERCH	1
ELECTROFI!	BOOM SHOCKEI	27-Oct-65	8223524	YELLOW PERCH	1
NETTING	FYKE NET	28-May-02	2088788	YELLOW PERCH	2
NETTING	FYKE NET	28-May-02	2088789	YELLOW PERCH	1
ELECTROFI!	BOOM SHOCKEI	26-Sep-02	13422158	YELLOW PERCH	15
NETTING	FYKE NET	8-Jun-03	2107203	YELLOW PERCH	1
NETTING	FYKE NET	8-Jun-03	2107209	YELLOW PERCH	1
NETTING	FYKE NET	8-Jun-03	2107228	YELLOW PERCH	1
NETTING	FYKE NET	8-Jun-03	2107229	YELLOW PERCH	1
NETTING	FYKE NET	9-Jun-03	2107241	YELLOW PERCH	1
NETTING	FYKE NET	9-Jun-03	2107264	YELLOW PERCH	3
NETTING	FYKE NET	9-Jun-03	2107265	YELLOW PERCH	3
NETTING	FYKE NET	9-Jun-03	2107266	YELLOW PERCH	3
NETTING	FYKE NET	10-Jun-03	2107276	YELLOW PERCH	3
NETTING	FYKE NET	13-Jun-03	2107285	YELLOW PERCH	1
NETTING	FYKE NET	13-Jun-03	2107290	YELLOW PERCH	2
NETTING	FYKE NET	13-Jun-03	2107296	YELLOW PERCH	1
NETTING	FYKE NET	13-Jun-03	2107319	YELLOW PERCH	4
NETTING	FYKE NET	13-Jun-03	2107320	YELLOW PERCH	4
NETTING	FYKE NET	13-Jun-03	2107321	YELLOW PERCH	4
NETTING	FYKE NET	13-Jun-03	2107322	YELLOW PERCH	4
NETTING	FYKE NET	14-Jun-03	2107336	YELLOW PERCH	1
NETTING	FYKE NET	15-Jun-03	2104376	YELLOW PERCH	5
NETTING	FYKE NET	15-Jun-03	2104377	YELLOW PERCH	3
NETTING	FYKE NET	15-Jun-03	2104378	YELLOW PERCH	5
NETTING	FYKE NET	15-Jun-03	2104379	YELLOW PERCH	1
NETTING	FYKE NET	15-Jun-03	2104380	YELLOW PERCH	2
NETTING	FYKE NET	15-Jun-03	2104381	YELLOW PERCH	2
NETTING	FYKE NET	15-Jun-03	2104382	YELLOW PERCH	1
NETTING	FYKE NET	15-Jun-03	2104383	YELLOW PERCH	1
NETTING	FYKE NET	15-Jun-03	2107365	YELLOW PERCH	2
NETTING	FYKE NET	15-Jun-03	2107370	YELLOW PERCH	1
NETTING	FYKE NET	15-Jun-03	2107376	YELLOW PERCH	1
NETTING	MINI FYKE NET '	15-Jul-03	2115233	YELLOW PERCH	1
NETTING	MINI FYKE NET '	15-Jul-03	2115281	YELLOW PERCH	1
NETTING	MINI FYKE NET '	16-Jul-03	2115304	YELLOW PERCH	1
NETTING	MINI FYKE NET '	16-Jul-03	2115305	YELLOW PERCH	1
NETTING	MINI FYKE NET '	16-Jul-03	2115316	YELLOW PERCH	1
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149576	YELLOW PERCH	1
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149577	YELLOW PERCH	1
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149578	YELLOW PERCH	1
ELECTROFI!	BOOM SHOCKEI	1-Oct-03	2149579	YELLOW PERCH	1
ELECTROFI!	BOOM SHOCKEI	6-Oct-04	2724775	YELLOW PERCH	3
ELECTROFI!	BOOM SHOCKEI	6-Oct-04	2724776	YELLOW PERCH	3
ELECTROFI!	BOOM SHOCKEI	6-Oct-04	2724777	YELLOW PERCH	3
NETTING	FYKE NET	11-Apr-05	4002772	YELLOW PERCH	1
OTHER	HOOK AND LINE	11-May-05	2740676	YELLOW PERCH	3
OTHER	HOOK AND LINE	11-May-05	2740677	YELLOW PERCH	1
ELECTROFI!	BOOM SHOCKEI	4-Oct-07	6057471	YELLOW PERCH	1
ELECTROFI!	BOOM SHOCKEI	4-Oct-07	6057472	YELLOW PERCH	2
ELECTROFI!	BOOM SHOCKEI	4-Oct-07	6057473	YELLOW PERCH	1
ELECTROFI!	BOOM SHOCKEI	4-Oct-07	6057474	YELLOW PERCH	1
ELECTROFI!	BOOM SHOCKEI	4-Oct-07	6057475	YELLOW PERCH	1
ELECTROFI!	BOOM SHOCKEI	4-Oct-07	6057476	YELLOW PERCH	2
ELECTROFI!	BOOM SHOCKEI	4-Oct-07	6057477	YELLOW PERCH	2
ELECTROFI!	BOOM SHOCKEI	4-Oct-07	6057478	YELLOW PERCH	1
ELECTROFI!	BOOM SHOCKEI	4-Oct-07	6057479	YELLOW PERCH	1
ELECTROFI!	BOOM SHOCKEI	4-Oct-07	6057480	YELLOW PERCH	1
ELECTROFI!	BOOM SHOCKEI	4-Oct-07	6057481	YELLOW PERCH	1

ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057482	YELLOW PERCH	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057596	YELLOW PERCH	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057597	YELLOW PERCH	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057598	YELLOW PERCH	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057599	YELLOW PERCH	1
ELECTROFIS	BOOM SHOCKEI	4-Oct-07	6057600	YELLOW PERCH	2
NETTING	FYKE NET	24-Apr-08	6774340	YELLOW PERCH	1
NETTING	FYKE NET	24-Apr-08	6774341	YELLOW PERCH	1
NETTING	FYKE NET	24-Apr-08	6774342	YELLOW PERCH	1
NETTING	FYKE NET	24-Apr-08	6774343	YELLOW PERCH	1
NETTING	FYKE NET	24-Apr-08	6774344	YELLOW PERCH	4
NETTING	FYKE NET	24-Apr-08	6774345	YELLOW PERCH	2
NETTING	FYKE NET	24-Apr-08	6774346	YELLOW PERCH	3
NETTING	FYKE NET	24-Apr-08	6774347	YELLOW PERCH	4
NETTING	FYKE NET	24-Apr-08	6774348	YELLOW PERCH	1
NETTING	FYKE NET	24-Apr-08	6774349	YELLOW PERCH	6
NETTING	FYKE NET	24-Apr-08	6774350	YELLOW PERCH	5
NETTING	FYKE NET	24-Apr-08	6774351	YELLOW PERCH	4
NETTING	FYKE NET	24-Apr-08	6774352	YELLOW PERCH	1
NETTING	FYKE NET	24-Apr-08	6774353	YELLOW PERCH	4
NETTING	FYKE NET	24-Apr-08	6774354	YELLOW PERCH	3
NETTING	FYKE NET	24-Apr-08	6774355	YELLOW PERCH	5
NETTING	FYKE NET	24-Apr-08	6774356	YELLOW PERCH	3
NETTING	FYKE NET	24-Apr-08	6774357	YELLOW PERCH	1
NETTING	FYKE NET	24-Apr-08	6774358	YELLOW PERCH	2
NETTING	FYKE NET	24-Apr-08	6774359	YELLOW PERCH	2
NETTING	FYKE NET	24-Apr-08	6774360	YELLOW PERCH	3
NETTING	FYKE NET	24-Apr-08	6774361	YELLOW PERCH	3
NETTING	FYKE NET	24-Apr-08	6774362	YELLOW PERCH	5
NETTING	FYKE NET	24-Apr-08	6774363	YELLOW PERCH	2
NETTING	FYKE NET	24-Apr-08	6774364	YELLOW PERCH	4
NETTING	FYKE NET	24-Apr-08	6774365	YELLOW PERCH	2
NETTING	FYKE NET	24-Apr-08	6774366	YELLOW PERCH	2
NETTING	FYKE NET	24-Apr-08	6774367	YELLOW PERCH	3
NETTING	FYKE NET	24-Apr-08	6774368	YELLOW PERCH	1
NETTING	FYKE NET	24-Apr-08	6774369	YELLOW PERCH	2
NETTING	FYKE NET	24-Apr-08	6774370	YELLOW PERCH	3
NETTING	FYKE NET	24-Apr-08	6774371	YELLOW PERCH	1
NETTING	FYKE NET	24-Apr-08	6774372	YELLOW PERCH	2
NETTING	FYKE NET	24-Apr-08	6774373	YELLOW PERCH	1
NETTING	FYKE NET	24-Apr-08	6774374	YELLOW PERCH	2
NETTING	FYKE NET	24-Apr-08	6774375	YELLOW PERCH	2
NETTING	FYKE NET	24-Apr-08	6774376	YELLOW PERCH	1
NETTING	FYKE NET	24-Apr-08	6774377	YELLOW PERCH	1
NETTING	FYKE NET	24-Apr-08	6774378	YELLOW PERCH	1
NETTING	FYKE NET	24-Apr-08	6774379	YELLOW PERCH	1
NETTING	FYKE NET	24-Apr-08	6774380	YELLOW PERCH	1
NETTING	FYKE NET	24-Apr-08	6774381	YELLOW PERCH	1
NETTING	FYKE NET	25-Apr-08	6774511	YELLOW PERCH	2
NETTING	FYKE NET	25-Apr-08	6774512	YELLOW PERCH	2
NETTING	FYKE NET	25-Apr-08	6774513	YELLOW PERCH	2
NETTING	FYKE NET	25-Apr-08	6774514	YELLOW PERCH	2
NETTING	FYKE NET	25-Apr-08	6774515	YELLOW PERCH	2
NETTING	FYKE NET	25-Apr-08	6774516	YELLOW PERCH	2
NETTING	FYKE NET	25-Apr-08	6774517	YELLOW PERCH	4
NETTING	FYKE NET	25-Apr-08	6774518	YELLOW PERCH	2
NETTING	FYKE NET	25-Apr-08	6774519	YELLOW PERCH	4
NETTING	FYKE NET	25-Apr-08	6774520	YELLOW PERCH	3
NETTING	FYKE NET	25-Apr-08	6774521	YELLOW PERCH	3
NETTING	FYKE NET	25-Apr-08	6774522	YELLOW PERCH	7
NETTING	FYKE NET	25-Apr-08	6774523	YELLOW PERCH	2

NETTING	FYKE NET	25-Apr-08	6774524	YELLOW PERCH	5
NETTING	FYKE NET	25-Apr-08	6774525	YELLOW PERCH	3
NETTING	FYKE NET	25-Apr-08	6774526	YELLOW PERCH	1
NETTING	FYKE NET	25-Apr-08	6774527	YELLOW PERCH	7
NETTING	FYKE NET	25-Apr-08	6774528	YELLOW PERCH	2
NETTING	FYKE NET	25-Apr-08	6774529	YELLOW PERCH	5
NETTING	FYKE NET	25-Apr-08	6774530	YELLOW PERCH	6
NETTING	FYKE NET	25-Apr-08	6774531	YELLOW PERCH	1
NETTING	FYKE NET	25-Apr-08	6774532	YELLOW PERCH	5
NETTING	FYKE NET	25-Apr-08	6774533	YELLOW PERCH	2
NETTING	FYKE NET	25-Apr-08	6774534	YELLOW PERCH	3
NETTING	FYKE NET	25-Apr-08	6774535	YELLOW PERCH	1
NETTING	FYKE NET	25-Apr-08	6774536	YELLOW PERCH	1
NETTING	FYKE NET	25-Apr-08	6774537	YELLOW PERCH	7
NETTING	FYKE NET	25-Apr-08	6774538	YELLOW PERCH	1
NETTING	FYKE NET	25-Apr-08	6774539	YELLOW PERCH	3
NETTING	FYKE NET	25-Apr-08	6774540	YELLOW PERCH	3
NETTING	FYKE NET	25-Apr-08	6774541	YELLOW PERCH	2
NETTING	FYKE NET	25-Apr-08	6774542	YELLOW PERCH	2
NETTING	FYKE NET	25-Apr-08	6774543	YELLOW PERCH	1
NETTING	FYKE NET	25-Apr-08	6774544	YELLOW PERCH	1
NETTING	FYKE NET	25-Apr-08	6774545	YELLOW PERCH	2
NETTING	FYKE NET	25-Apr-08	6774546	YELLOW PERCH	4
NETTING	FYKE NET	25-Apr-08	6774547	YELLOW PERCH	2
NETTING	FYKE NET	25-Apr-08	6774548	YELLOW PERCH	1
NETTING	FYKE NET	25-Apr-08	6774549	YELLOW PERCH	1
NETTING	FYKE NET	25-Apr-08	6774550	YELLOW PERCH	1
NETTING	FYKE NET	25-Apr-08	6774551	YELLOW PERCH	1
NETTING	FYKE NET	25-Apr-08	6774552	YELLOW PERCH	1
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783319	YELLOW PERCH	2
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783320	YELLOW PERCH	1
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783321	YELLOW PERCH	1
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783322	YELLOW PERCH	1
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783323	YELLOW PERCH	1
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783324	YELLOW PERCH	1
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783325	YELLOW PERCH	1
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783326	YELLOW PERCH	1
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783327	YELLOW PERCH	1
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783328	YELLOW PERCH	2
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783329	YELLOW PERCH	1
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783659	YELLOW PERCH	5
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783660	YELLOW PERCH	1
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783661	YELLOW PERCH	1
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783662	YELLOW PERCH	1
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783663	YELLOW PERCH	1
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783664	YELLOW PERCH	1
ELECTROFIS	BOOM SHOCKEI	9-Jun-08	6783665	YELLOW PERCH	1
NETTING	FYKE NET	23-Apr-14	10379737	YELLOW PERCH	1
NETTING	FYKE NET	23-Apr-14	10379782	YELLOW PERCH	1
NETTING	FYKE NET	23-Apr-14	10379783	YELLOW PERCH	1
NETTING	FYKE NET	23-Apr-14	10379784	YELLOW PERCH	1
NETTING	FYKE NET	23-Apr-14	10379786	YELLOW PERCH	1
NETTING	FYKE NET	23-Apr-14	10379787	YELLOW PERCH	1
NETTING	FYKE NET	23-Apr-14	10379793	YELLOW PERCH	1
NETTING	FYKE NET	23-Apr-14	10379794	YELLOW PERCH	1
NETTING	FYKE NET	23-Apr-14	10379796	YELLOW PERCH	1
NETTING	FYKE NET	23-Apr-14	10379797	YELLOW PERCH	1
NETTING	FYKE NET	23-Apr-14	10379798	YELLOW PERCH	1
NETTING	FYKE NET	23-Apr-14	10379799	YELLOW PERCH	1
NETTING	FYKE NET	23-Apr-14	10379800	YELLOW PERCH	1
NETTING	FYKE NET	23-Apr-14	10379801	YELLOW PERCH	1

NETTING	FYKE NET	23-Apr-14	10379803	YELLOW PERCH	1
NETTING	FYKE NET	23-Apr-14	10379804	YELLOW PERCH	1
NETTING	FYKE NET	23-Apr-14	10379805	YELLOW PERCH	1
NETTING	FYKE NET	23-Apr-14	10379806	YELLOW PERCH	1
NETTING	FYKE NET	23-Apr-14	10379807	YELLOW PERCH	1
NETTING	FYKE NET	23-Apr-14	10379808	YELLOW PERCH	1
NETTING	FYKE NET	23-Apr-14	10379809	YELLOW PERCH	1
NETTING	FYKE NET	23-Apr-14	10379810	YELLOW PERCH	1
NETTING	FYKE NET	23-Apr-14	10379811	YELLOW PERCH	1
NETTING	FYKE NET	23-Apr-14	10379813	YELLOW PERCH	1
NETTING	FYKE NET	23-Apr-14	10379814	YELLOW PERCH	1
NETTING	FYKE NET	23-Apr-14	10379815	YELLOW PERCH	1
NETTING	FYKE NET	23-Apr-14	10379816	YELLOW PERCH	1
NETTING	FYKE NET	23-Apr-14	10379817	YELLOW PERCH	1
NETTING	FYKE NET	23-Apr-14	10379818	YELLOW PERCH	1
NETTING	FYKE NET	23-Apr-14	10379819	YELLOW PERCH	1
NETTING	FYKE NET	23-Apr-14	10379820	YELLOW PERCH	1
NETTING	FYKE NET	23-Apr-14	10379828	YELLOW PERCH	1
NETTING	FYKE NET	23-Apr-14	10379841	YELLOW PERCH	1
NETTING	FYKE NET	23-Apr-14	10379855	YELLOW PERCH	1
NETTING	FYKE NET	23-Apr-14	10379856	YELLOW PERCH	1
NETTING	FYKE NET	23-Apr-14	10379859	YELLOW PERCH	1
NETTING	FYKE NET	23-Apr-14	10379860	YELLOW PERCH	1
NETTING	FYKE NET	23-Apr-14	10379861	YELLOW PERCH	1
NETTING	FYKE NET	23-Apr-14	10379862	YELLOW PERCH	1
NETTING	FYKE NET	23-Apr-14	10379863	YELLOW PERCH	1
NETTING	FYKE NET	24-Apr-14	10379936	YELLOW PERCH	15
NETTING	FYKE NET	24-Apr-14	10379944	YELLOW PERCH	2
NETTING	FYKE NET	24-Apr-14	10379954	YELLOW PERCH	5
NETTING	FYKE NET	24-Apr-14	10379966	YELLOW PERCH	4
NETTING	FYKE NET	24-Apr-14	10380061	YELLOW PERCH	1
NETTING	FYKE NET	24-Apr-14	10380062	YELLOW PERCH	1
NETTING	FYKE NET	24-Apr-14	10380063	YELLOW PERCH	1
NETTING	FYKE NET	24-Apr-14	10380064	YELLOW PERCH	1
NETTING	FYKE NET	24-Apr-14	10380065	YELLOW PERCH	1
NETTING	FYKE NET	24-Apr-14	10380157	YELLOW PERCH	1
NETTING	FYKE NET	25-Apr-14	10380194	YELLOW PERCH	1
NETTING	FYKE NET	25-Apr-14	10380195	YELLOW PERCH	1
NETTING	FYKE NET	25-Apr-14	10380196	YELLOW PERCH	1
NETTING	FYKE NET	25-Apr-14	10380220	YELLOW PERCH	1
NETTING	FYKE NET	25-Apr-14	10380221	YELLOW PERCH	1
NETTING	FYKE NET	25-Apr-14	10380222	YELLOW PERCH	1
NETTING	FYKE NET	25-Apr-14	10380223	YELLOW PERCH	1
NETTING	FYKE NET	25-Apr-14	10380224	YELLOW PERCH	1
NETTING	FYKE NET	25-Apr-14	10380225	YELLOW PERCH	1
NETTING	FYKE NET	25-Apr-14	10380236	YELLOW PERCH	1
NETTING	FYKE NET	25-Apr-14	10380237	YELLOW PERCH	1
NETTING	FYKE NET	25-Apr-14	10380238	YELLOW PERCH	1
NETTING	FYKE NET	25-Apr-14	10380239	YELLOW PERCH	1
NETTING	FYKE NET	25-Apr-14	10380240	YELLOW PERCH	1
NETTING	FYKE NET	25-Apr-14	10380241	YELLOW PERCH	1
NETTING	FYKE NET	25-Apr-14	10380242	YELLOW PERCH	1
NETTING	FYKE NET	25-Apr-14	10380243	YELLOW PERCH	1
NETTING	FYKE NET	25-Apr-14	10380244	YELLOW PERCH	1
NETTING	FYKE NET	25-Apr-14	10380245	YELLOW PERCH	1
NETTING	FYKE NET	25-Apr-14	10380246	YELLOW PERCH	1
NETTING	FYKE NET	25-Apr-14	10380262	YELLOW PERCH	1
NETTING	FYKE NET	25-Apr-14	10380263	YELLOW PERCH	1
NETTING	FYKE NET	25-Apr-14	10380264	YELLOW PERCH	1
NETTING	FYKE NET	25-Apr-14	10380283	YELLOW PERCH	1
NETTING	FYKE NET	25-Apr-14	10380286	YELLOW PERCH	1

NETTING	FYKE NET	25-Apr-14	10380287	YELLOW PERCH	1		
NETTING	FYKE NET	25-Apr-14	10380288	YELLOW PERCH	1		
NETTING	FYKE NET	25-Apr-14	10380289	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380305	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380306	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380324	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380335	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380346	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380347	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380348	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380349	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380350	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380351	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380352	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380353	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380354	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380355	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380358	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380359	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380360	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380361	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380362	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380367	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380368	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380369	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380376	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380377	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380380	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380381	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380382	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380383	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380389	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380390	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380395	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380396	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380399	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380400	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380401	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380402	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380403	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380406	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380418	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380425	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380426	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380429	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380435	YELLOW PERCH	1		
NETTING	FYKE NET	26-Apr-14	10380436	YELLOW PERCH	1	508	5.88%
					8641	8641	

APPENDIX 4.4.1.1-2 WDNR Trego Lake Fish Survey Data

Visit Type	Gear	Sample Date	Target Species	Net Number	Species	Number of Fish	Total #	% of Total
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES	4	BLACK BULLHEAD	1	1	0.05%
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES	1	BLACK CRAPPIE	5		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES	2	BLACK CRAPPIE	8		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES	3	BLACK CRAPPIE	12		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES	4	BLACK CRAPPIE	4		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES	5	BLACK CRAPPIE	5		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES	6	BLACK CRAPPIE	158		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES	7	BLACK CRAPPIE	5		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES	8	BLACK CRAPPIE	3		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	BLACK CRAPPIE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	BLACK CRAPPIE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	BLACK CRAPPIE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	BLACK CRAPPIE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	BLACK CRAPPIE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	BLACK CRAPPIE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	BLACK CRAPPIE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	BLACK CRAPPIE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	BLACK CRAPPIE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	BLACK CRAPPIE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	BLACK CRAPPIE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	BLACK CRAPPIE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	BLACK CRAPPIE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	BLACK CRAPPIE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	BLACK CRAPPIE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	BLACK CRAPPIE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	BLACK CRAPPIE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	BLACK CRAPPIE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	BLACK CRAPPIE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	BLACK CRAPPIE	1		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLACK CRAPPIE	1		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLACK CRAPPIE	1		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLACK CRAPPIE	1		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLACK CRAPPIE	1		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLACK CRAPPIE	1		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLACK CRAPPIE	2		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLACK CRAPPIE	2		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLACK CRAPPIE	4		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLACK CRAPPIE	1		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLACK CRAPPIE	2		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLACK CRAPPIE	1		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLACK CRAPPIE	1		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLACK CRAPPIE	1		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLACK CRAPPIE	1		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLACK CRAPPIE	1		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLACK CRAPPIE	1		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLACK CRAPPIE	1		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLACK CRAPPIE	1		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLACK CRAPPIE	1		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLACK CRAPPIE	2		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLACK CRAPPIE	2		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLACK CRAPPIE	1		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	BLACK CRAPPIE	1		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	BLACK CRAPPIE	1		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	BLACK CRAPPIE	1		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	BLACK CRAPPIE	1		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	BLACK CRAPPIE	1		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	BLACK CRAPPIE	1		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	BLACK CRAPPIE	1		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	BLACK CRAPPIE	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-	BLACK CRAPPIE	1		

ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLACK CRAPPIE	1	260	12.74%
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES		1	BLUEGILL	92		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES		1	BLUEGILL	2		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES		2	BLUEGILL	76		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES		2	BLUEGILL	12		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES		3	BLUEGILL	11		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES		3	BLUEGILL	1		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES		4	BLUEGILL	66		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES		4	BLUEGILL	4		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES		5	BLUEGILL	48		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES		5	BLUEGILL	14		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES		6	BLUEGILL	22		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES		7	BLUEGILL	2		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES		7	BLUEGILL	1		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES		8	BLUEGILL	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		BLUEGILL	1		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS		BLUEGILL	1		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS		BLUEGILL	1		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS		BLUEGILL	1		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS		BLUEGILL	2		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS		BLUEGILL	2		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS		BLUEGILL	2		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS		BLUEGILL	2		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS		BLUEGILL	2		

NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLUEGILL	1
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLUEGILL	4
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLUEGILL	2
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLUEGILL	1
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLUEGILL	8
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLUEGILL	2
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLUEGILL	4
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLUEGILL	4
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLUEGILL	3
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLUEGILL	6
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLUEGILL	6
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLUEGILL	4
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLUEGILL	2
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLUEGILL	3
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLUEGILL	2
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLUEGILL	2
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLUEGILL	5
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLUEGILL	2
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLUEGILL	2
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLUEGILL	4
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLUEGILL	4
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLUEGILL	5
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLUEGILL	2
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLUEGILL	2
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLUEGILL	3
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLUEGILL	1
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLUEGILL	2
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLUEGILL	1
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLUEGILL	1
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLUEGILL	1
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLUEGILL	1
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLUEGILL	3
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLUEGILL	1
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	BLUEGILL	1
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	BLUEGILL	1
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	BLUEGILL	2
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	BLUEGILL	1
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	BLUEGILL	2
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	BLUEGILL	4
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	BLUEGILL	5
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	BLUEGILL	1
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	BLUEGILL	3
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	BLUEGILL	4
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	BLUEGILL	7
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	BLUEGILL	5
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	BLUEGILL	3
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	BLUEGILL	3
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	BLUEGILL	2
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	BLUEGILL	2
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	BLUEGILL	3
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	BLUEGILL	6
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	BLUEGILL	4
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	BLUEGILL	2
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	BLUEGILL	1
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	BLUEGILL	2
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	BLUEGILL	1
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	BLUEGILL	3
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	BLUEGILL	3
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	BLUEGILL	2
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	BLUEGILL	2
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	BLUEGILL	3

NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS		BLUEGILL	3		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS		BLUEGILL	1		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS		BLUEGILL	4		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	3		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	3		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	3		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	2		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	2		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	4		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	3		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	2		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	2		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	2		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	3		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	4		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	2		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	2		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	3		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	2		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		BLUEGILL	1	660	32.34%
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS		BOWFIN	1	1	0.05%
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS		BROWN BULLHEAD	2	2	0.10%
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES		3	CENTRAL STONEROLLER	1	1	0.05%
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		CHESTNUT LAMPREY	1	1	0.05%
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES		4	COMMON SHINER	1		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES		4	COMMON SHINER	1		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES		6	COMMON SHINER	20		

NETTING	MINI FYKE	19-Aug-03	ALL SPECIES		7	COMMON SHINER	1		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES		8	COMMON SHINER	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		COMMON SHINER	1	25	1.22%
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		FATHEAD MINNOW	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		FATHEAD MINNOW	1	2	0.10%
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		GOLDEN REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		GOLDEN REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		GOLDEN REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		GOLDEN REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		GOLDEN REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		GOLDEN REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		GOLDEN REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		GOLDEN REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		GOLDEN REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		GOLDEN REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		GOLDEN REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		GOLDEN REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		GOLDEN REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		GOLDEN REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		GOLDEN REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		GOLDEN REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		GOLDEN REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		GOLDEN REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		GOLDEN REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		GOLDEN REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		GOLDEN REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		GOLDEN REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		GOLDEN REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		GOLDEN REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		GOLDEN REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		GOLDEN REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		GOLDEN REDHORSE	1		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS		GOLDEN REDHORSE	2		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS		GOLDEN REDHORSE	3	32	1.57%
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES		1	GOLDEN SHINER	1		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES		2	GOLDEN SHINER	1		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES		4	GOLDEN SHINER	2		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES		4	GOLDEN SHINER	1		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES		6	GOLDEN SHINER	4		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		GOLDEN SHINER	4		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		GOLDEN SHINER	9		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS		GOLDEN SHINER	1	23	1.13%
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS		GREATER REDHORSE	5		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS		GREATER REDHORSE	3	8	0.39%
OTHER	HOOK AND	23-Aug-10	LAKE STURGEON	-		LAKE STURGEON	1		
OTHER	HOOK AND	26-Aug-10	LAKE STURGEON	-		LAKE STURGEON	1		
OTHER	HOOK AND	26-Aug-10	LAKE STURGEON	-		LAKE STURGEON	1		
OTHER	HOOK AND	26-Aug-10	LAKE STURGEON	-		LAKE STURGEON	1		
OTHER	HOOK AND	28-Jul-11	LAKE STURGEON	-		LAKE STURGEON	1		
OTHER	HOOK AND	28-Jul-11	LAKE STURGEON	-		LAKE STURGEON	1		
OTHER	HOOK AND	17-Aug-11	LAKE STURGEON	-		LAKE STURGEON	1		
OTHER	HOOK AND	13-Sep-11	LAKE STURGEON	-		LAKE STURGEON	1		
OTHER	HOOK AND	13-Sep-11	LAKE STURGEON	-		LAKE STURGEON	1		
OTHER	HOOK AND	24-Jun-13	LAKE STURGEON	-		LAKE STURGEON	1		
OTHER	HOOK AND	24-Jun-13	LAKE STURGEON	-		LAKE STURGEON	1		
OTHER	HOOK AND	24-Jun-13	LAKE STURGEON	-		LAKE STURGEON	1		
OTHER	HOOK AND	24-Jun-13	LAKE STURGEON	-		LAKE STURGEON	1		
OTHER	HOOK AND	25-Jun-13	LAKE STURGEON	-		LAKE STURGEON	1		
OTHER	HOOK AND	25-Jun-13	LAKE STURGEON	-		LAKE STURGEON	1		
OTHER	HOOK AND	25-Jun-13	LAKE STURGEON	-		LAKE STURGEON	1		
OTHER	HOOK AND	27-Jun-13	LAKE STURGEON	-		LAKE STURGEON	1		

OTHER	HOOK AND	27-Jun-13	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	1-Aug-13	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	1-Aug-13	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	1-Aug-13	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	28-Aug-13	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	28-Aug-13	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	8-Oct-13	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	8-Oct-13	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	8-Oct-13	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	8-Oct-13	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	8-Oct-13	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	10-Oct-13	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	3-Jul-14	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	3-Jul-14	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	24-Jul-14	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	24-Jul-14	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	24-Jul-14	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	24-Jul-14	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	1-Aug-14	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	1-Aug-14	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	19-Aug-14	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	19-Aug-14	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	19-Aug-14	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	19-Aug-14	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	19-Aug-14	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	19-Aug-14	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	28-Aug-14	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	28-Aug-14	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	28-Aug-14	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	28-Aug-14	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	28-Aug-14	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	28-Aug-14	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	28-Aug-14	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	28-Aug-14	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	8-Sep-14	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	8-Sep-14	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	8-Sep-14	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	8-Sep-14	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	8-Sep-14	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	15-Sep-14	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	15-Sep-14	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	26-May-15	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	26-May-15	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	26-May-15	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	26-May-15	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	26-May-15	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	9-Jul-15	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	9-Jul-15	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	9-Jul-15	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	13-Jul-15	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	13-Jul-15	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	13-Jul-15	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	13-Jul-15	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	13-Jul-15	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	13-Jul-15	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	16-Jul-15	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	16-Jul-15	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	3-Aug-15	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	10-Aug-15	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	18-Aug-15	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	18-Aug-15	LAKE STURGEON	-	LAKE STURGEON	1

OTHER	HOOK AND	31-Aug-15	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	31-Aug-15	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	8-Sep-15	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	8-Sep-15	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	8-Sep-15	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	15-Sep-15	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	15-Sep-15	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	15-Sep-15	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	15-Sep-15	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	14-Oct-15	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	14-Oct-15	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	14-Oct-15	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	14-Oct-15	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	14-Oct-15	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	14-Oct-15	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	27-Jun-16	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	27-Jun-16	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	27-Jun-16	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	27-Jun-16	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	27-Jun-16	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	27-Jun-16	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	29-Jun-16	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	19-Jul-16	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	19-Jul-16	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	19-Jul-16	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	19-Jul-16	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	19-Jul-16	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	19-Jul-16	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	19-Jul-16	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	10-Aug-16	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	10-Aug-16	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	10-Aug-16	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	10-Aug-16	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	23-Aug-16	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	23-Aug-16	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	23-Aug-16	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	23-Aug-16	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	30-Aug-16	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	30-Aug-16	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	30-Aug-16	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	30-Aug-16	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	30-Aug-16	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	8-Sep-16	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	8-Sep-16	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	8-Sep-16	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	8-Sep-16	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	22-Sep-16	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	8-Jun-17	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	8-Jun-17	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	14-Jun-17	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	14-Jun-17	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	14-Jun-17	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	14-Jun-17	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	23-Jun-17	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	11-Jul-17	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	11-Jul-17	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	11-Jul-17	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	20-Jul-17	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	20-Jul-17	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	20-Jul-17	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	9-Aug-17	LAKE STURGEON	-	LAKE STURGEON	1

OTHER	HOOK AND	9-Aug-17	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	9-Aug-17	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	9-Aug-17	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	18-Aug-17	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	18-Aug-17	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	18-Aug-17	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	31-Aug-17	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	31-Aug-17	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	31-Aug-17	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	21-Sep-17	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	21-Sep-17	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	21-Sep-17	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	21-Sep-17	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	10-Oct-17	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	12-Jun-18	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	12-Jun-18	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	12-Jun-18	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	12-Jun-18	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	18-Jun-18	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	18-Jun-18	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	27-Jun-18	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	27-Jun-18	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	27-Jul-18	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	27-Jul-18	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	27-Jul-18	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	27-Jul-18	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	27-Jul-18	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	27-Jul-18	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	17-Aug-18	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	17-Aug-18	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	17-Aug-18	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	17-Aug-18	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	17-Aug-18	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	17-Aug-18	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	17-Aug-18	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	17-Aug-18	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	12-Jun-19	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	12-Jun-19	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	12-Jun-19	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	12-Jun-19	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	18-Jun-19	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	18-Jun-19	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	18-Jun-19	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	18-Jun-19	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	11-Jul-19	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	11-Jul-19	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	29-Jul-19	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	29-Jul-19	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	29-Jul-19	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	29-Jul-19	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	6-Aug-19	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	6-Aug-19	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	6-Aug-19	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	6-Aug-19	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	12-Aug-19	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	12-Aug-19	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	19-Aug-19	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	19-Aug-19	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	19-Aug-19	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	28-Aug-19	LAKE STURGEON	-	LAKE STURGEON	1
OTHER	HOOK AND	28-Aug-19	LAKE STURGEON	-	LAKE STURGEON	1

OTHER	HOOK AND	19-Sep-19	LAKE STURGEON	-	LAKE STURGEON	1		
OTHER	HOOK AND	19-Sep-19	LAKE STURGEON	-	LAKE STURGEON	1		
OTHER	HOOK AND	19-Sep-19	LAKE STURGEON	-	LAKE STURGEON	1		
OTHER	HOOK AND	19-Sep-19	LAKE STURGEON	-	LAKE STURGEON	1		
OTHER	HOOK AND	17-Oct-19	LAKE STURGEON	-	LAKE STURGEON	1	205	10.04%
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES	1	LARGEMOUTH BASS	11		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES	2	LARGEMOUTH BASS	14		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES	3	LARGEMOUTH BASS	12		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES	4	LARGEMOUTH BASS	2		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES	5	LARGEMOUTH BASS	3		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES	6	LARGEMOUTH BASS	4		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES	6	LARGEMOUTH BASS	2		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES	7	LARGEMOUTH BASS	1		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES	8	LARGEMOUTH BASS	3		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	LARGEMOUTH BASS	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	LARGEMOUTH BASS	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	LARGEMOUTH BASS	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	LARGEMOUTH BASS	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	LARGEMOUTH BASS	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	LARGEMOUTH BASS	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	LARGEMOUTH BASS	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	LARGEMOUTH BASS	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	LARGEMOUTH BASS	1		
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	LARGEMOUTH BASS	1		
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	LARGEMOUTH BASS	1		
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	LARGEMOUTH BASS	1		
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	LARGEMOUTH BASS	1		
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	LARGEMOUTH BASS	2		
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	LARGEMOUTH BASS	1		
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	LARGEMOUTH BASS	1		
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	LARGEMOUTH BASS	1		
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	LARGEMOUTH BASS	1		
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	LARGEMOUTH BASS	1		
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	LARGEMOUTH BASS	2		
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	LARGEMOUTH BASS	1		
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	LARGEMOUTH BASS	1		
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	LARGEMOUTH BASS	1		
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	LARGEMOUTH BASS	1		
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	LARGEMOUTH BASS	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	LARGEMOUTH BASS	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	LARGEMOUTH BASS	2		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	LARGEMOUTH BASS	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	LARGEMOUTH BASS	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	LARGEMOUTH BASS	2		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	LARGEMOUTH BASS	1	87	4.26%
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES	5	MIMIC SHINER	1	1	0.05%
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	MUSKELLUNGE	1		
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	MUSKELLUNGE	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	MUSKELLUNGE	1	3	0.15%
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES	2	NORTHERN PIKE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	NORTHERN PIKE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	NORTHERN PIKE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	NORTHERN PIKE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	NORTHERN PIKE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	NORTHERN PIKE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	NORTHERN PIKE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	NORTHERN PIKE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	NORTHERN PIKE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	NORTHERN PIKE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	NORTHERN PIKE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	NORTHERN PIKE	1		

ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	NORTHERN PIKE	1
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	NORTHERN PIKE	1
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	NORTHERN PIKE	5
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	NORTHERN PIKE	2
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	NORTHERN PIKE	2
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	NORTHERN PIKE	3
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	NORTHERN PIKE	3
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	NORTHERN PIKE	2
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	NORTHERN PIKE	2
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	NORTHERN PIKE	2
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	NORTHERN PIKE	2
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	NORTHERN PIKE	2
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	NORTHERN PIKE	2
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	NORTHERN PIKE	1
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	NORTHERN PIKE	1

ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	NORTHERN PIKE	1		
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	NORTHERN PIKE	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-	NORTHERN PIKE	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-	NORTHERN PIKE	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-	NORTHERN PIKE	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-	NORTHERN PIKE	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-	NORTHERN PIKE	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-	NORTHERN PIKE	1		
ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-	NORTHERN PIKE	1		
ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-	NORTHERN PIKE	1		
ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-	NORTHERN PIKE	1		
ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-	NORTHERN PIKE	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	NORTHERN PIKE	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	NORTHERN PIKE	2		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	NORTHERN PIKE	2		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	NORTHERN PIKE	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	NORTHERN PIKE	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	NORTHERN PIKE	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	NORTHERN PIKE	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	NORTHERN PIKE	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	NORTHERN PIKE	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	NORTHERN PIKE	1	113	5.54%
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES	1	PUMPKINSEED	1		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES	2	PUMPKINSEED	2		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES	4	PUMPKINSEED	1		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES	5	PUMPKINSEED	2		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES	6	PUMPKINSEED	2		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES	7	PUMPKINSEED	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	PUMPKINSEED	1		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	PUMPKINSEED	1		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	PUMPKINSEED	1		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	PUMPKINSEED	1		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	PUMPKINSEED	1		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	PUMPKINSEED	2		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	PUMPKINSEED	3		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	PUMPKINSEED	6		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	PUMPKINSEED	5		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	PUMPKINSEED	5		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	PUMPKINSEED	6		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	PUMPKINSEED	6		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	PUMPKINSEED	2		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	PUMPKINSEED	9		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	PUMPKINSEED	4		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	PUMPKINSEED	1		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	PUMPKINSEED	4		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	PUMPKINSEED	1		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	PUMPKINSEED	1		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	PUMPKINSEED	2		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	PUMPKINSEED	1		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	PUMPKINSEED	2		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	PUMPKINSEED	3		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	PUMPKINSEED	2		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	PUMPKINSEED	3		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	PUMPKINSEED	7		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	PUMPKINSEED	5		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	PUMPKINSEED	2		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	PUMPKINSEED	2		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	PUMPKINSEED	3		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	PUMPKINSEED	4		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	PUMPKINSEED	1		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	PUMPKINSEED	2		

NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS		PUMPKINSEED	3		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS		PUMPKINSEED	1		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS		PUMPKINSEED	1		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS		PUMPKINSEED	1		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS		PUMPKINSEED	1		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS		PUMPKINSEED	3		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS		PUMPKINSEED	1		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS		PUMPKINSEED	1		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS		PUMPKINSEED	1		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS		PUMPKINSEED	1		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS		PUMPKINSEED	1		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS		PUMPKINSEED	2		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS		PUMPKINSEED	2		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS		PUMPKINSEED	2		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS		PUMPKINSEED	1		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS		PUMPKINSEED	1		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS		PUMPKINSEED	1		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS		PUMPKINSEED	3		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS		PUMPKINSEED	1		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS		PUMPKINSEED	3		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS		PUMPKINSEED	2		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS		PUMPKINSEED	2		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS		PUMPKINSEED	1		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS		PUMPKINSEED	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		PUMPKINSEED	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		PUMPKINSEED	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-		PUMPKINSEED	1	148	7.25%
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		RIVER REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		RIVER REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		RIVER REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		RIVER REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		RIVER REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		RIVER REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		RIVER REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		RIVER REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		RIVER REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		RIVER REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		RIVER REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		RIVER REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		RIVER REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		RIVER REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		RIVER REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		RIVER REDHORSE	1	16	0.78%
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES		2	ROCK BASS	1		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES		2	ROCK BASS	3		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES		3	ROCK BASS	1		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES		4	ROCK BASS	3		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES		4	ROCK BASS	1		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES		5	ROCK BASS	1		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES		5	ROCK BASS	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		ROCK BASS	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		ROCK BASS	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		ROCK BASS	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		ROCK BASS	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		ROCK BASS	1		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS		ROCK BASS	1		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS		ROCK BASS	1		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS		ROCK BASS	1		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS		ROCK BASS	1		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS		ROCK BASS	1		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS		ROCK BASS	1		

NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	ROCK BASS	1		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	ROCK BASS	1		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	ROCK BASS	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-	ROCK BASS	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-	ROCK BASS	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-	ROCK BASS	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-	ROCK BASS	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-	ROCK BASS	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-	ROCK BASS	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-	ROCK BASS	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-	ROCK BASS	2		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-	ROCK BASS	1		
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-	ROCK BASS	1	36	1.76%
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	SHORTHEAD REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	SHORTHEAD REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	SHORTHEAD REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	SHORTHEAD REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	SHORTHEAD REDHORSE	1	5	0.24%
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	SILVER REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	SILVER REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	SILVER REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	SILVER REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	SILVER REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	SILVER REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	SILVER REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	SILVER REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	SILVER REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	SILVER REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	SILVER REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	SILVER REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	SILVER REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	SILVER REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	SILVER REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	SILVER REDHORSE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	SILVER REDHORSE	1		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	SILVER REDHORSE	14		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	SILVER REDHORSE	6	37	1.81%
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1		

ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	SMALLMOUTH BASS	1
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	SMALLMOUTH BASS	3
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	SMALLMOUTH BASS	2
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	SMALLMOUTH BASS	2
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	SMALLMOUTH BASS	3
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	SMALLMOUTH BASS	5
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	SMALLMOUTH BASS	2
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	SMALLMOUTH BASS	2
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	SMALLMOUTH BASS	4
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	SMALLMOUTH BASS	4
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	SMALLMOUTH BASS	2
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	SMALLMOUTH BASS	2
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	SMALLMOUTH BASS	4
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	SMALLMOUTH BASS	2
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-	SMALLMOUTH BASS	2
ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-	SMALLMOUTH BASS	2
ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1
ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-	SMALLMOUTH BASS	1

ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-		SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-		SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-		SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-		SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-		SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-		SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-		SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-		SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-		SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-		SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-		SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-		SMALLMOUTH BASS	3		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-		SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-		SMALLMOUTH BASS	2		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-		SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-		SMALLMOUTH BASS	2		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-		SMALLMOUTH BASS	2		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-		SMALLMOUTH BASS	2		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-		SMALLMOUTH BASS	2		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-		SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-		SMALLMOUTH BASS	2		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-		SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-		SMALLMOUTH BASS	4		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-		SMALLMOUTH BASS	3		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-		SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-		SMALLMOUTH BASS	4		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-		SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-		SMALLMOUTH BASS	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-		SMALLMOUTH BASS	1	156	7.64%
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		SPOTTAIL SHINER	1	1	0.05%
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES		5	TADPOLE MADTOM	1		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS		TADPOLE MADTOM	2	3	0.15%
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		WALLEYE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		WALLEYE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		WALLEYE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		WALLEYE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		WALLEYE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		WALLEYE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-		WALLEYE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-		WALLEYE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-		WALLEYE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-		WALLEYE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-		WALLEYE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-		WALLEYE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-		WALLEYE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-		WALLEYE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-		WALLEYE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-		WALLEYE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-		WALLEYE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-		WALLEYE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-		WALLEYE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-		WALLEYE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-		WALLEYE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-		WALLEYE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-		WALLEYE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-		WALLEYE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-		WALLEYE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-		WALLEYE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-		WALLEYE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	GAMEFISH SPECIES	-		WALLEYE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		WALLEYE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		WALLEYE	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-		WALLEYE	1		

ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	WALLEYE	1
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	WALLEYE	1
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	WALLEYE	1
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	WALLEYE	1
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	WALLEYE	4
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	WALLEYE	1
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	WALLEYE	1
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	WALLEYE	1
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	WALLEYE	1
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	WALLEYE	1
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	WALLEYE	1
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	WALLEYE	1
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	WALLEYE	1
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	WALLEYE	1
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	WALLEYE	1
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	WALLEYE	1
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	WALLEYE	1
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	WALLEYE	3
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	WALLEYE	1
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	WALLEYE	1
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	WALLEYE	1
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	WALLEYE	1
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	WALLEYE	2
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	WALLEYE	1
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	WALLEYE	1
ELECTROFI!	BOOM SHC	20-Sep-11	GAMEFISH SPECIES	-	WALLEYE	1
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	WALLEYE	1
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	WALLEYE	4
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	WALLEYE	2
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	WALLEYE	1
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	WALLEYE	1
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	WALLEYE	4
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	WALLEYE	2
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	WALLEYE	1
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	WALLEYE	1
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	WALLEYE	1
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	WALLEYE	1
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	WALLEYE	2
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	WALLEYE	1
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	WALLEYE	1
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	WALLEYE	1
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	WALLEYE	2
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	WALLEYE	2
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	WALLEYE	1
ELECTROFI!	BOOM SHC	14-Sep-16	GAMEFISH SPECIES	-	WALLEYE	1
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-	WALLEYE	1
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-	WALLEYE	1
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-	WALLEYE	2
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-	WALLEYE	1
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-	WALLEYE	4
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-	WALLEYE	4
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-	WALLEYE	1
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-	WALLEYE	1
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-	WALLEYE	1
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-	WALLEYE	1
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-	WALLEYE	2
ELECTROFI!	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-	WALLEYE	1
ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-	WALLEYE	1
ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-	WALLEYE	1
ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-	WALLEYE	1
ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-	WALLEYE	2

ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-	WALLEYE	1		
ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-	WALLEYE	1		
ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-	WALLEYE	4		
ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-	WALLEYE	2		
ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-	WALLEYE	1		
ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-	WALLEYE	1		
ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-	WALLEYE	4		
ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-	WALLEYE	1		
ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-	WALLEYE	1		
ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-	WALLEYE	1		
ELECTROFI!	BOOM SHC	13-Jun-19	GAMEFISH SPECIES	-	WALLEYE	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	WALLEYE	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	WALLEYE	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	WALLEYE	2		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	WALLEYE	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	WALLEYE	2		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	WALLEYE	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	WALLEYE	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	WALLEYE	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	WALLEYE	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	WALLEYE	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	WALLEYE	2		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	WALLEYE	4		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	WALLEYE	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	WALLEYE	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	WALLEYE	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	WALLEYE	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	WALLEYE	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	WALLEYE	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	WALLEYE	2		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	WALLEYE	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	WALLEYE	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	WALLEYE	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	WALLEYE	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	WALLEYE	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	WALLEYE	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	WALLEYE	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	WALLEYE	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	WALLEYE	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	WALLEYE	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	WALLEYE	3		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	WALLEYE	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	WALLEYE	3		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	WALLEYE	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	WALLEYE	1		
ELECTROFI!	BOOM SHC	19-Sep-19	GAMEFISH SPECIES	-	WALLEYE	1	180	8.82%
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	WHITE SUCKER	1		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	WHITE SUCKER	1		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	WHITE SUCKER	1	3	0.15%
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES	6	YELLOW BULLHEAD	1		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	YELLOW BULLHEAD	1	2	0.10%
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES	1	YELLOW PERCH	4		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES	1	YELLOW PERCH	1		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES	2	YELLOW PERCH	1		
NETTING	MINI FYKE	19-Aug-03	ALL SPECIES	5	YELLOW PERCH	2		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	YELLOW PERCH	1		
ELECTROFI!	BOOM SHC	7-Oct-03	ALL SPECIES	-	YELLOW PERCH	1		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	YELLOW PERCH	1		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	YELLOW PERCH	2		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	YELLOW PERCH	1		
NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	YELLOW PERCH	1		

NETTING	FYKE NET	10-Jun-04	PANFISH	ALL NETS	YELLOW PERCH	1		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	YELLOW PERCH	1		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	YELLOW PERCH	1		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	YELLOW PERCH	1		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	YELLOW PERCH	2		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	YELLOW PERCH	1		
NETTING	FYKE NET	11-Jun-04	PANFISH	ALL NETS	YELLOW PERCH	1		
ELECTROFIS	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-	YELLOW PERCH	1		
ELECTROFIS	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-	YELLOW PERCH	1		
ELECTROFIS	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-	YELLOW PERCH	1		
ELECTROFIS	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-	YELLOW PERCH	1		
ELECTROFIS	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-	YELLOW PERCH	1		
ELECTROFIS	BOOM SHC	13-Jun-19	PANFISH - GAMEFISH	-	YELLOW PERCH	1	29	1.42%
							2041	

APPENDIX 4.4.1.1-3 **WDNR Upstream of Trego Lake Fish Survey Data**

SWIMS Sta	Visit Type	Gear	Date	Target Species	Species	Number	Total	% of Total	
10021156	ELECTROFISHING	STREAM SHOCKER	11-Jul-07	ALL SPECIES	BLACKSIDE DARTER	27			
10021156	ELECTROFISHING	STREAM SHOCKER	20-Aug-08	ALL SPECIES	BLACKSIDE DARTER	25			
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	ALL SPECIES	BLACKSIDE DARTER	43			
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-10	ALL SPECIES	BLACKSIDE DARTER	83			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-11	ALL SPECIES	BLACKSIDE DARTER	1			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	23-Aug-17	ALL SPECIES	BLACKSIDE DARTER	3			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	16-Aug-18	ALL SPECIES	BLACKSIDE DARTER	1	183	8.34%	4
10021156	ELECTROFISHING	STREAM SHOCKER	11-Jul-07	ALL SPECIES	BLUEGILL	2			
10021156	ELECTROFISHING	STREAM SHOCKER	20-Aug-08	ALL SPECIES	BLUEGILL	1			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	5-Aug-14	ALL SPECIES	BLUEGILL	1			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	23-Aug-17	ALL SPECIES	BLUEGILL	1			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	16-Aug-18	ALL SPECIES	Bluegill 6.1	6			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	16-Aug-18	ALL SPECIES	BLUEGILL-5.5	6			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	16-Aug-18	ALL SPECIES	BLUEGILL	5	22	1.00%	
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	ALL SPECIES	BLUNTNOSE MINNOW	2			
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-10	ALL SPECIES	BLUNTNOSE MINNOW	5	7	0.32%	
10021156	ELECTROFISHING	STREAM SHOCKER	11-Jul-07	ALL SPECIES	CENTRAL MUDMINNOW	3			
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	ALL SPECIES	CENTRAL MUDMINNOW	1			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-11	ALL SPECIES	CENTRAL MUDMINNOW	1	5	0.23%	
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	ALL SPECIES	CHESNUT LAMPREY (AMMOCOETE)	20			
10021156	ELECTROFISHING	STREAM SHOCKER	11-Jul-07	ALL SPECIES	CHESTNUT LAMPREY	4			
10021156	ELECTROFISHING	STREAM SHOCKER	20-Aug-08	ALL SPECIES	CHESTNUT LAMPREY	18			
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-10	ALL SPECIES	CHESTNUT LAMPREY	9			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-11	ALL SPECIES	CHESTNUT LAMPREY	2			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	13-Aug-13	ALL SPECIES	CHESTNUT LAMPREY	1			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	5-Aug-14	ALL SPECIES	CHESTNUT LAMPREY	1	55	2.51%	
10021156	ELECTROFISHING	STREAM SHOCKER	11-Jul-07	ALL SPECIES	COMMON SHINER	101			
10021156	ELECTROFISHING	STREAM SHOCKER	20-Aug-08	ALL SPECIES	COMMON SHINER	15			
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	ALL SPECIES	COMMON SHINER	31			
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-10	ALL SPECIES	COMMON SHINER	50			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-11	ALL SPECIES	COMMON SHINER	1			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-12	ALL SPECIES	COMMON SHINER	1			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	13-Aug-13	ALL SPECIES	COMMON SHINER	1			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	11-Aug-15	ALL SPECIES	COMMON SHINER	2			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	23-Aug-17	ALL SPECIES	COMMON SHINER	2			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	16-Aug-18	ALL SPECIES	COMMON SHINER	3	207	9.44%	3
10021156	ELECTROFISHING	STREAM SHOCKER	11-Jul-07	ALL SPECIES	CREEK CHUB	54			
10021156	ELECTROFISHING	STREAM SHOCKER	20-Aug-08	ALL SPECIES	CREEK CHUB	23			
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	ALL SPECIES	CREEK CHUB	19			
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-10	ALL SPECIES	CREEK CHUB	63	159	7.3%	
10021156	ELECTROFISHING	STREAM SHOCKER	11-Jul-07	ALL SPECIES	GOLDEN REDHORSE	28			
10021156	ELECTROFISHING	STREAM SHOCKER	20-Aug-08	ALL SPECIES	GOLDEN REDHORSE	1			
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	ALL SPECIES	GOLDEN REDHORSE	6			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-11	ALL SPECIES	GOLDEN REDHORSE	25			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-12	ALL SPECIES	GOLDEN REDHORSE	24			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	13-Aug-13	ALL SPECIES	GOLDEN REDHORSE	10			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	5-Aug-14	ALL SPECIES	GOLDEN REDHORSE	12			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	11-Aug-15	ALL SPECIES	GOLDEN REDHORSE	26			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	9-Aug-16	ALL SPECIES	GOLDEN REDHORSE	15			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	23-Aug-17	ALL SPECIES	GOLDEN REDHORSE	7			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	16-Aug-18	ALL SPECIES	GOLDEN REDHORSE	6			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	14-Aug-19	ALL SPECIES	GOLDEN REDHORSE	13			
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	ALL SPECIES	GREATER REDHORSE	3			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	13-Aug-13	ALL SPECIES	GREATER REDHORSE	3			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	9-Aug-16	ALL SPECIES	GREATER REDHORSE	1			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	23-Aug-17	ALL SPECIES	GREATER REDHORSE	1			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	16-Aug-18	ALL SPECIES	GREATER REDHORSE	1	182	8.30%	5
10021156	ELECTROFISHING	STREAM SHOCKER	11-Jul-07	ALL SPECIES	HORNYHEAD CHUB	32			
10021156	ELECTROFISHING	STREAM SHOCKER	20-Aug-08	ALL SPECIES	HORNYHEAD CHUB	26			
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	ALL SPECIES	HORNYHEAD CHUB	60			
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-10	ALL SPECIES	HORNYHEAD CHUB	114			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-11	ALL SPECIES	HORNYHEAD CHUB	8			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	13-Aug-13	ALL SPECIES	HORNYHEAD CHUB	3			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	5-Aug-14	ALL SPECIES	HORNYHEAD CHUB	1	244	11.13%	1
10021156	ELECTROFISHING	STREAM SHOCKER	11-Jul-07	ALL SPECIES	JOHNNY DARTER	7			
10021156	ELECTROFISHING	STREAM SHOCKER	20-Aug-08	ALL SPECIES	JOHNNY DARTER	4			
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	ALL SPECIES	JOHNNY DARTER	15			
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-10	ALL SPECIES	JOHNNY DARTER	21			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	11-Aug-15	ALL SPECIES	JOHNNY DARTER	1	48	2.19%	
10021156	ELECTROFISHING	STREAM SHOCKER	11-Jul-07	ALL SPECIES	LARGEMOUTH BASS	1			

10021156	ELECTROFISHING	STREAM SHOCKER	22-Aug-08	GAMEFISH SPE	LARGEMOUTH BASS	1		
10021156	ELECTROFISHING	STREAM SHOCKER	22-Aug-08	GAMEFISH SPE	LARGEMOUTH BASS	4		
10021156	ELECTROFISHING	STREAM SHOCKER	22-Aug-08	GAMEFISH SPE	LARGEMOUTH BASS	1		
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-10	ALL SPECIES	LARGEMOUTH BASS	1		
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-10	ALL SPECIES	LARGEMOUTH BASS	2		
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-10	ALL SPECIES	LARGEMOUTH BASS	2		
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-10	ALL SPECIES	LARGEMOUTH BASS	2		
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-10	ALL SPECIES	LARGEMOUTH BASS	1		
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-10	ALL SPECIES	LARGEMOUTH BASS	1		
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-10	ALL SPECIES	LARGEMOUTH BASS	2		
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-10	ALL SPECIES	LARGEMOUTH BASS	1	19	0.87%
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	ALL SPECIES	LARGESCALE STONEROLLER	37		
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-10	ALL SPECIES	LARGESCALE STONEROLLER	58	95	4.33%
10021156	ELECTROFISHING	STREAM SHOCKER	11-Jul-07	ALL SPECIES	LOGPERCH	18		
10021156	ELECTROFISHING	STREAM SHOCKER	20-Aug-08	ALL SPECIES	LOGPERCH	3		
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	ALL SPECIES	LOGPERCH	12		
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-10	ALL SPECIES	LOGPERCH	22		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-11	ALL SPECIES	LOGPERCH	5		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-12	ALL SPECIES	LOGPERCH	1		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	13-Aug-13	ALL SPECIES	LOGPERCH	1		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	11-Aug-15	ALL SPECIES	LOGPERCH	8		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	9-Aug-16	ALL SPECIES	LOGPERCH	1		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	23-Aug-17	ALL SPECIES	LOGPERCH	4		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	16-Aug-18	ALL SPECIES	LOGPERCH	7		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	14-Aug-19	ALL SPECIES	LOGPERCH	5	87	3.97%
10021156	ELECTROFISHING	STREAM SHOCKER	11-Jul-07	ALL SPECIES	LONGNOSE DACE	1		
10021156	ELECTROFISHING	STREAM SHOCKER	20-Aug-08	ALL SPECIES	LONGNOSE DACE	5		
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	ALL SPECIES	LONGNOSE DACE	11		
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-10	ALL SPECIES	LONGNOSE DACE	7		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-11	ALL SPECIES	LONGNOSE DACE	1	25	1.14%
10021156	ELECTROFISHING	MINI BOOM SHOCKER	13-Aug-13	ALL SPECIES	MUSKELLUNGE	1	1	0.05%
10021156	ELECTROFISHING	STREAM SHOCKER	11-Jul-07	ALL SPECIES	NORTHERN HOG SUCKER	6		
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	ALL SPECIES	NORTHERN HOG SUCKER	21		
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-10	ALL SPECIES	NORTHERN HOG SUCKER	18		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-11	ALL SPECIES	NORTHERN HOG SUCKER	22		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-12	ALL SPECIES	NORTHERN HOG SUCKER	20		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	13-Aug-13	ALL SPECIES	NORTHERN HOG SUCKER	10		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	5-Aug-14	ALL SPECIES	NORTHERN HOG SUCKER	9		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	11-Aug-15	ALL SPECIES	NORTHERN HOG SUCKER	9		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	9-Aug-16	ALL SPECIES	NORTHERN HOG SUCKER	11		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	23-Aug-17	ALL SPECIES	NORTHERN HOG SUCKER	24		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	16-Aug-18	ALL SPECIES	NORTHERN HOG SUCKER	15		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	14-Aug-19	ALL SPECIES	NORTHERN HOG SUCKER	16	181	8.25%
10021156	ELECTROFISHING	STREAM SHOCKER	11-Jul-07	GAMEFISH SPE	NORTHERN PIKE	1		
10021156	ELECTROFISHING	STREAM SHOCKER	20-Aug-08	ALL SPECIES	NORTHERN PIKE	1		
10021156	ELECTROFISHING	STREAM SHOCKER	20-Aug-08	ALL SPECIES	NORTHERN PIKE	1		
10021156	ELECTROFISHING	STREAM SHOCKER	22-Aug-08	GAMEFISH SPE	NORTHERN PIKE	1		
10021156	ELECTROFISHING	STREAM SHOCKER	22-Aug-08	GAMEFISH SPE	NORTHERN PIKE	1		
10021156	ELECTROFISHING	STREAM SHOCKER	22-Aug-08	GAMEFISH SPE	NORTHERN PIKE	1		
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	ALL SPECIES	NORTHERN PIKE	1		
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	SMALLMOUTH	NORTHERN PIKE	1		
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-10	ALL SPECIES	NORTHERN PIKE	1		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-11	SMALLMOUTH	NORTHERN PIKE	1		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-11	ALL SPECIES	NORTHERN PIKE	1		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-11	ALL SPECIES	NORTHERN PIKE	1		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-11	ALL SPECIES	NORTHERN PIKE	1		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-11	ALL SPECIES	NORTHERN PIKE	1		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-11	ALL SPECIES	NORTHERN PIKE	1		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-11	ALL SPECIES	NORTHERN PIKE	1		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-12	SMALLMOUTH	NORTHERN PIKE	1		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-12	ALL SPECIES	NORTHERN PIKE	1		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-12	ALL SPECIES	NORTHERN PIKE	1		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	13-Aug-13	GAMEFISH SPE	NORTHERN PIKE	1		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	13-Aug-13	ALL SPECIES	NORTHERN PIKE	1		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	5-Aug-14	ALL SPECIES	NORTHERN PIKE	1		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	5-Aug-14	ALL SPECIES	NORTHERN PIKE	1		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	5-Aug-14	ALL SPECIES	NORTHERN PIKE	1		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	11-Aug-15	ALL SPECIES	NORTHERN PIKE	1		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	16-Aug-18	ALL SPECIES	NORTHERN PIKE	1		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	16-Aug-18	ALL SPECIES	NORTHERN PIKE	1		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	14-Aug-19	GAMEFISH SPE	NORTHERN PIKE	1	28	1.28%

10021156	ELECTROFISHING	MINI BOOM SHOCKER	5-Aug-14	ALL SPECIES	RIVER REDHORSE	1			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	11-Aug-15	ALL SPECIES	RIVER REDHORSE	1	2	0.09%	
10021156	ELECTROFISHING	STREAM SHOCKER	11-Jul-07	ALL SPECIES	ROCK BASS	36			
10021156	ELECTROFISHING	STREAM SHOCKER	20-Aug-08	ALL SPECIES	ROCK BASS	8			
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	ALL SPECIES	ROCK BASS	6			
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-10	ALL SPECIES	ROCK BASS	17			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-11	ALL SPECIES	ROCK BASS	2			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-12	ALL SPECIES	ROCK BASS	2			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	13-Aug-13	ALL SPECIES	ROCK BASS	1			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	9-Aug-16	ALL SPECIES	ROCK BASS	1			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	23-Aug-17	ALL SPECIES	ROCK BASS	2			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	14-Aug-19	ALL SPECIES	ROCK BASS	2	77	3.51%	
10021156	ELECTROFISHING	STREAM SHOCKER	11-Jul-07	ALL SPECIES	SHORTHEAD REDHORSE	6			
10021156	ELECTROFISHING	STREAM SHOCKER	20-Aug-08	ALL SPECIES	SHORTHEAD REDHORSE	9			
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	ALL SPECIES	SHORTHEAD REDHORSE	4			
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-10	ALL SPECIES	SHORTHEAD REDHORSE	2			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-11	ALL SPECIES	SHORTHEAD REDHORSE	29			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-12	ALL SPECIES	SHORTHEAD REDHORSE	25			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	13-Aug-13	ALL SPECIES	SHORTHEAD REDHORSE	16			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	5-Aug-14	ALL SPECIES	SHORTHEAD REDHORSE	29			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	11-Aug-15	ALL SPECIES	SHORTHEAD REDHORSE	23			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	9-Aug-16	ALL SPECIES	SHORTHEAD REDHORSE	10			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	23-Aug-17	ALL SPECIES	SHORTHEAD REDHORSE	25			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	16-Aug-18	ALL SPECIES	SHORTHEAD REDHORSE	15			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	14-Aug-19	ALL SPECIES	SHORTHEAD REDHORSE	26	219	9.99%	2
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-10	ALL SPECIES	SILVER REDHORSE	4			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-11	ALL SPECIES	SILVER REDHORSE	1			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-12	ALL SPECIES	SILVER REDHORSE	1			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	9-Aug-16	ALL SPECIES	SILVER REDHORSE	2			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	16-Aug-18	ALL SPECIES	SILVER REDHORSE	1			
10021156	ELECTROFISHING	MINI BOOM SHOCKER	14-Aug-19	ALL SPECIES	SILVER REDHORSE	2	11	0.50%	
10021156	ELECTROFISHING	STREAM SHOCKER	11-Jul-07	ALL SPECIES	SMALLMOUTH BASS	1			
10021156	ELECTROFISHING	STREAM SHOCKER	11-Jul-07	ALL SPECIES	SMALLMOUTH BASS	1			
10021156	ELECTROFISHING	STREAM SHOCKER	11-Jul-07	ALL SPECIES	SMALLMOUTH BASS	1			
10021156	ELECTROFISHING	STREAM SHOCKER	11-Jul-07	ALL SPECIES	SMALLMOUTH BASS	1			
10021156	ELECTROFISHING	STREAM SHOCKER	11-Jul-07	ALL SPECIES	SMALLMOUTH BASS	2			
10021156	ELECTROFISHING	STREAM SHOCKER	11-Jul-07	ALL SPECIES	SMALLMOUTH BASS	4			
10021156	ELECTROFISHING	STREAM SHOCKER	11-Jul-07	ALL SPECIES	SMALLMOUTH BASS	1			
10021156	ELECTROFISHING	STREAM SHOCKER	11-Jul-07	ALL SPECIES	SMALLMOUTH BASS	1			
10021156	ELECTROFISHING	STREAM SHOCKER	11-Jul-07	GAMEFISH SPE	SMALLMOUTH BASS	1			
10021156	ELECTROFISHING	STREAM SHOCKER	11-Jul-07	GAMEFISH SPE	SMALLMOUTH BASS	1			
10021156	ELECTROFISHING	STREAM SHOCKER	11-Jul-07	GAMEFISH SPE	SMALLMOUTH BASS	1			
10021156	ELECTROFISHING	STREAM SHOCKER	11-Jul-07	GAMEFISH SPE	SMALLMOUTH BASS	2			
10021156	ELECTROFISHING	STREAM SHOCKER	11-Jul-07	GAMEFISH SPE	SMALLMOUTH BASS	1			
10021156	ELECTROFISHING	STREAM SHOCKER	11-Jul-07	GAMEFISH SPE	SMALLMOUTH BASS	1			
10021156	ELECTROFISHING	STREAM SHOCKER	11-Jul-07	GAMEFISH SPE	SMALLMOUTH BASS	1			
10021156	ELECTROFISHING	STREAM SHOCKER	20-Aug-08	ALL SPECIES	SMALLMOUTH BASS	1			
10021156	ELECTROFISHING	STREAM SHOCKER	20-Aug-08	ALL SPECIES	SMALLMOUTH BASS	3			
10021156	ELECTROFISHING	STREAM SHOCKER	20-Aug-08	ALL SPECIES	SMALLMOUTH BASS	1			
10021156	ELECTROFISHING	STREAM SHOCKER	20-Aug-08	ALL SPECIES	SMALLMOUTH BASS	1			
10021156	ELECTROFISHING	STREAM SHOCKER	20-Aug-08	ALL SPECIES	SMALLMOUTH BASS	1			
10021156	ELECTROFISHING	STREAM SHOCKER	20-Aug-08	ALL SPECIES	SMALLMOUTH BASS	1			
10021156	ELECTROFISHING	STREAM SHOCKER	22-Aug-08	GAMEFISH SPE	SMALLMOUTH BASS	2			
10021156	ELECTROFISHING	STREAM SHOCKER	22-Aug-08	GAMEFISH SPE	SMALLMOUTH BASS	2			
10021156	ELECTROFISHING	STREAM SHOCKER	22-Aug-08	GAMEFISH SPE	SMALLMOUTH BASS	1			
10021156	ELECTROFISHING	STREAM SHOCKER	22-Aug-08	GAMEFISH SPE	SMALLMOUTH BASS	1			
10021156	ELECTROFISHING	STREAM SHOCKER	22-Aug-08	GAMEFISH SPE	SMALLMOUTH BASS	1			
10021156	ELECTROFISHING	STREAM SHOCKER	22-Aug-08	GAMEFISH SPE	SMALLMOUTH BASS	2			
10021156	ELECTROFISHING	STREAM SHOCKER	22-Aug-08	GAMEFISH SPE	SMALLMOUTH BASS	3			
10021156	ELECTROFISHING	STREAM SHOCKER	22-Aug-08	GAMEFISH SPE	SMALLMOUTH BASS	1			
10021156	ELECTROFISHING	STREAM SHOCKER	22-Aug-08	GAMEFISH SPE	SMALLMOUTH BASS	1			
10021156	ELECTROFISHING	STREAM SHOCKER	22-Aug-08	GAMEFISH SPE	SMALLMOUTH BASS	1			
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	ALL SPECIES	SMALLMOUTH BASS	1			
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	ALL SPECIES	SMALLMOUTH BASS	2			
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	ALL SPECIES	SMALLMOUTH BASS	1			
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	ALL SPECIES	SMALLMOUTH BASS	2			
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	ALL SPECIES	SMALLMOUTH BASS	1			
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	ALL SPECIES	SMALLMOUTH BASS	1			
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	ALL SPECIES	SMALLMOUTH BASS	1			
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	ALL SPECIES	SMALLMOUTH BASS	1			
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	SMALLMOUTH	SMALLMOUTH BASS	2			

10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	SMALLMOUTH	SMALLMOUTH BASS	5
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	SMALLMOUTH	SMALLMOUTH BASS	6
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	SMALLMOUTH	SMALLMOUTH BASS	3
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	SMALLMOUTH	SMALLMOUTH BASS	5
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	SMALLMOUTH	SMALLMOUTH BASS	3
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	SMALLMOUTH	SMALLMOUTH BASS	7
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	SMALLMOUTH	SMALLMOUTH BASS	2
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	SMALLMOUTH	SMALLMOUTH BASS	2
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	SMALLMOUTH	SMALLMOUTH BASS	2
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	SMALLMOUTH	SMALLMOUTH BASS	2
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	SMALLMOUTH	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	SMALLMOUTH	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	SMALLMOUTH	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	SMALLMOUTH	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	SMALLMOUTH	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	SMALLMOUTH	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	SMALLMOUTH	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-10	ALL SPECIES	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-10	ALL SPECIES	SMALLMOUTH BASS	2
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-10	ALL SPECIES	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-10	ALL SPECIES	SMALLMOUTH BASS	2
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-10	ALL SPECIES	SMALLMOUTH BASS	2
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-10	ALL SPECIES	SMALLMOUTH BASS	2
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-10	ALL SPECIES	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-10	ALL SPECIES	SMALLMOUTH BASS	2
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-10	ALL SPECIES	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-10	ALL SPECIES	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-11	SMALLMOUTH	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-11	SMALLMOUTH	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-11	SMALLMOUTH	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-11	SMALLMOUTH	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-11	SMALLMOUTH	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-11	SMALLMOUTH	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-11	ALL SPECIES	SMALLMOUTH BASS	2
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-11	ALL SPECIES	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-11	ALL SPECIES	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-11	ALL SPECIES	SMALLMOUTH BASS	2
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-11	ALL SPECIES	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-11	ALL SPECIES	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-11	ALL SPECIES	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-11	ALL SPECIES	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-12	SMALLMOUTH	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-12	SMALLMOUTH	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-12	SMALLMOUTH	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-12	SMALLMOUTH	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-12	ALL SPECIES	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-12	ALL SPECIES	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-12	ALL SPECIES	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-12	ALL SPECIES	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	13-Aug-13	GAMEFISH SPE	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	13-Aug-13	GAMEFISH SPE	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	13-Aug-13	GAMEFISH SPE	SMALLMOUTH BASS	2
10021156	ELECTROFISHING	MINI BOOM SHOCKER	13-Aug-13	ALL SPECIES	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	13-Aug-13	ALL SPECIES	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	5-Aug-14	GAMEFISH SPE	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	5-Aug-14	GAMEFISH SPE	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	5-Aug-14	GAMEFISH SPE	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	5-Aug-14	GAMEFISH SPE	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	5-Aug-14	ALL SPECIES	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	5-Aug-14	ALL SPECIES	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	5-Aug-14	ALL SPECIES	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	11-Aug-15	GAMEFISH SPE	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	11-Aug-15	GAMEFISH SPE	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	11-Aug-15	ALL SPECIES	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	11-Aug-15	ALL SPECIES	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	23-Aug-17	GAMEFISH SPE	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	23-Aug-17	GAMEFISH SPE	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	23-Aug-17	GAMEFISH SPE	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	23-Aug-17	ALL SPECIES	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	23-Aug-17	ALL SPECIES	SMALLMOUTH BASS	1
10021156	ELECTROFISHING	MINI BOOM SHOCKER	23-Aug-17	ALL SPECIES	SMALLMOUTH BASS	1

10021156	ELECTROFISHING	MINI BOOM SHOCKER	23-Aug-17	ALL SPECIES	SMALLMOUTH BASS	1		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	16-Aug-18	GAMEFISH SPE	SMALLMOUTH BASS	1		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	16-Aug-18	ALL SPECIES	SMALLMOUTH BASS	1		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	16-Aug-18	ALL SPECIES	SMALLMOUTH BASS	1		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	16-Aug-18	ALL SPECIES	SMALLMOUTH BASS	1		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	14-Aug-19	GAMEFISH SPE	SMALLMOUTH BASS	1		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	14-Aug-19	GAMEFISH SPE	SMALLMOUTH BASS	1		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	14-Aug-19	GAMEFISH SPE	SMALLMOUTH BASS	1		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	14-Aug-19	GAMEFISH SPE	SMALLMOUTH BASS	1		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	14-Aug-19	GAMEFISH SPE	SMALLMOUTH BASS	1		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	14-Aug-19	ALL SPECIES	SMALLMOUTH BASS	1		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	14-Aug-19	ALL SPECIES	SMALLMOUTH BASS	1	172	7.84%
10021156	ELECTROFISHING	STREAM SHOCKER	11-Jul-07	ALL SPECIES	STONEROLLERS	4		
10021156	ELECTROFISHING	STREAM SHOCKER	20-Aug-08	ALL SPECIES	STONEROLLERS	15		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-11	ALL SPECIES	STONEROLLERS	6		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-12	ALL SPECIES	STONEROLLERS	6		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	9-Aug-16	ALL SPECIES	STONEROLLERS	3		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	23-Aug-17	ALL SPECIES	STONEROLLERS	9		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	16-Aug-18	ALL SPECIES	STONEROLLERS	20		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	14-Aug-19	ALL SPECIES	STONEROLLERS	1	64	2.92%
10021156	ELECTROFISHING	STREAM SHOCKER	11-Jul-07	ALL SPECIES	TADPOLE MADTOM	1	1	0.05%
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-11	SMALLMOUTH	WALLEYE	1		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	9-Aug-16	ALL SPECIES	WALLEYE	1		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	9-Aug-16	ALL SPECIES	WALLEYE	1		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	9-Aug-16	ALL SPECIES	WALLEYE	1		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	23-Aug-17	ALL SPECIES	WALLEYE	1	5	0.23%
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	ALL SPECIES	WESTERN BLACKNOSE DACE	6		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-12	ALL SPECIES	WESTERN BLACKNOSE DACE	1	7	0.32%
10021156	ELECTROFISHING	STREAM SHOCKER	11-Jul-07	ALL SPECIES	WHITE SUCKER	4		
10021156	ELECTROFISHING	STREAM SHOCKER	20-Aug-08	ALL SPECIES	WHITE SUCKER	1		
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-09	ALL SPECIES	WHITE SUCKER	16		
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-10	ALL SPECIES	WHITE SUCKER	32		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-11	ALL SPECIES	WHITE SUCKER	10		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	24-Aug-12	ALL SPECIES	WHITE SUCKER	7		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	13-Aug-13	ALL SPECIES	WHITE SUCKER	3		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	5-Aug-14	ALL SPECIES	WHITE SUCKER	2		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	11-Aug-15	ALL SPECIES	WHITE SUCKER	5		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	23-Aug-17	ALL SPECIES	WHITE SUCKER	4		
10021156	ELECTROFISHING	MINI BOOM SHOCKER	14-Aug-19	ALL SPECIES	WHITE SUCKER	1	85	3.88%
10021156	ELECTROFISHING	STREAM SHOCKER	10-Sep-10	ALL SPECIES	YELLOW PERCH	2	2	0.09%
							2193	

APPENDIX 4.4.1.1-4 WDNR Downstream of Trego Lake Fish Survey Data

Survey Yea	Station Name	Swims Stat	Visit Type	Gear	Sample Date	Target Spe	Species	Number of Fish			
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-06	ALL SPECIE	BLACK CRAPPIE	1	1	0.04%	
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	BLACKSIDE DARTER	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	BLACKSIDE DARTER	2			
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-06	ALL SPECIE	BLACKSIDE DARTER	2			
2007	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-07	ALL SPECIE	BLACKSIDE DARTER	1	6	0.25%	
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-06	ALL SPECIE	BLUEGILL	1	1	0.04%	
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	GAMEFISH	CHANNEL CATFISH	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	GAMEFISH	CHANNEL CATFISH	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	GAMEFISH	CHANNEL CATFISH	1			
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	8-Sep-10	GAMEFISH	CHANNEL CATFISH	1			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	GAMEFISH	CHANNEL CATFISH	1			
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-18	ALL SPECIE	CHANNEL CATFISH	1			
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-18	ALL SPECIE	CHANNEL CATFISH	1			
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-18	ALL SPECIE	CHANNEL CATFISH	1			
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-18	GAMEFISH	CHANNEL CATFISH	1	9	0.38%	
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-06	ALL SPECIE	CHESNUT LAMPREY (AMMOCOETE)	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	ALL SPECIE	CHESTNUT LAMPREY	2			
2007	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-07	ALL SPECIE	CHESTNUT LAMPREY	2			
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	9-Sep-08	ALL SPECIE	CHESTNUT LAMPREY	3			
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	3-Sep-09	ALL SPECIE	CHESTNUT LAMPREY	4			
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	8-Sep-10	ALL SPECIE	CHESTNUT LAMPREY	1	13	0.54%	
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	COMMON SHINER	7			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	COMMON SHINER	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	ALL SPECIE	COMMON SHINER	16			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	COMMON SHINER	44			
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-06	ALL SPECIE	COMMON SHINER	54			
2007	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-07	ALL SPECIE	COMMON SHINER	4	126	5.25%	5
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	GILT DARTER	2			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	ALL SPECIE	GILT DARTER	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	GILT DARTER	1			
2007	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-07	ALL SPECIE	GILT DARTER	2			
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	9-Sep-08	ALL SPECIE	GILT DARTER	3			
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	8-Sep-10	ALL SPECIE	GILT DARTER	2	11	0.46%	
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	GOLDEN REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	GOLDEN REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	GOLDEN REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	GOLDEN REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	GOLDEN REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	GOLDEN REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	GOLDEN REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	GOLDEN REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	GOLDEN REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	GOLDEN REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	GOLDEN REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	GOLDEN REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	GOLDEN REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	GOLDEN REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	GOLDEN REDHORSE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	ALL SPECIE	GOLDEN REDHORSE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	ALL SPECIE	GOLDEN REDHORSE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	ALL SPECIE	GOLDEN REDHORSE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	ALL SPECIE	GOLDEN REDHORSE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	ALL SPECIE	GOLDEN REDHORSE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	ALL SPECIE	GOLDEN REDHORSE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	ALL SPECIE	GOLDEN REDHORSE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	ALL SPECIE	GOLDEN REDHORSE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	ALL SPECIE	GOLDEN REDHORSE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	ALL SPECIE	GOLDEN REDHORSE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	ALL SPECIE	GOLDEN REDHORSE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	ALL SPECIE	GOLDEN REDHORSE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	ALL SPECIE	GOLDEN REDHORSE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	ALL SPECIE	GOLDEN REDHORSE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	ALL SPECIE	GOLDEN REDHORSE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	ALL SPECIE	GOLDEN REDHORSE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	ALL SPECIE	GOLDEN REDHORSE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	ALL SPECIE	GOLDEN REDHORSE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	ALL SPECIE	GOLDEN REDHORSE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	ALL SPECIE	GOLDEN REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	GOLDEN REDHORSE	2			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	GOLDEN REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	GOLDEN REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	GOLDEN REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	GOLDEN REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	GOLDEN REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	GOLDEN REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	GOLDEN REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	GOLDEN REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	GOLDEN REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	GOLDEN REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	GOLDEN REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	GOLDEN REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	GOLDEN REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	GOLDEN REDHORSE	1			

2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	6-Sep-05	ALL SPECIE	GOLDEN REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	6-Sep-05	ALL SPECIE	GOLDEN REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	6-Sep-05	ALL SPECIE	GOLDEN REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	6-Sep-05	ALL SPECIE	GOLDEN REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	6-Sep-05	ALL SPECIE	GOLDEN REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	6-Sep-05	ALL SPECIE	GOLDEN REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	6-Sep-05	ALL SPECIE	GOLDEN REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	6-Sep-05	ALL SPECIE	GOLDEN REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	6-Sep-05	ALL SPECIE	GOLDEN REDHORSE	1			
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-06	ALL SPECIE	GOLDEN REDHORSE	32			
2007	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	29-Aug-07	ALL SPECIE	GOLDEN REDHORSE	29			
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	9-Sep-08	ALL SPECIE	GOLDEN REDHORSE	74			
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	3-Sep-09	ALL SPECIE	GOLDEN REDHORSE	119			
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	8-Sep-10	ALL SPECIE	GOLDEN REDHORSE	79			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	25-Aug-14	ALL SPECIE	GOLDEN REDHORSE	1			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	25-Aug-14	ALL SPECIE	GOLDEN REDHORSE	12			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	25-Aug-14	ALL SPECIE	GOLDEN REDHORSE	6			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	25-Aug-14	ALL SPECIE	GOLDEN REDHORSE	2			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	25-Aug-14	ALL SPECIE	GOLDEN REDHORSE	3			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	25-Aug-14	ALL SPECIE	GOLDEN REDHORSE	4			
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	29-Aug-18	ALL SPECIE	GOLDEN REDHORSE	6			
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	29-Aug-18	ALL SPECIE	GOLDEN REDHORSE	1	428	17.84%	3
2007	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	29-Aug-07	ALL SPECIE	GREATER REDHORSE	3			
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	9-Sep-08	GAMEFISH	GREATER REDHORSE	2			
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	3-Sep-09	ALL SPECIE	GREATER REDHORSE	4			
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	3-Sep-09	GAMEFISH	GREATER REDHORSE	6			
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	8-Sep-10	ALL SPECIE	GREATER REDHORSE	2			
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	8-Sep-10	GAMEFISH	GREATER REDHORSE	1			
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	29-Aug-18	ALL SPECIE	GREATER REDHORSE	2			
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	29-Aug-18	ALL SPECIE	GREATER REDHORSE	1			
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	29-Aug-18	ALL SPECIE	GREATER REDHORSE	1			
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	29-Aug-18	GAMEFISH	GREATER REDHORSE	2	24	1.00%	3
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-03	ALL SPECIE	HORNYHEAD CHUB	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	1-Sep-04	ALL SPECIE	HORNYHEAD CHUB	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	6-Sep-05	ALL SPECIE	HORNYHEAD CHUB	1			
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-06	ALL SPECIE	HORNYHEAD CHUB	13			
2007	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	29-Aug-07	ALL SPECIE	HORNYHEAD CHUB	1			
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	9-Sep-08	ALL SPECIE	HORNYHEAD CHUB	2	19	0.79%	
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-03	GAMEFISH	LAKE STURGEON	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-03	GAMEFISH	LAKE STURGEON	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	1-Sep-04	GAMEFISH	LAKE STURGEON	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	1-Sep-04	GAMEFISH	LAKE STURGEON	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	6-Sep-05	GAMEFISH	LAKE STURGEON	1			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	25-Aug-14	GAMEFISH	LAKE STURGEON	1			
2018	NAMEKAGON RIVER - CTH K	10011080	OTHER	HOOK AND	18-Jul-18	LAKE STUR	LAKE STURGEON	1			
2018	NAMEKAGON RIVER - CTH K	10011080	OTHER	HOOK AND	18-Jul-18	LAKE STUR	LAKE STURGEON	1			
2018	NAMEKAGON RIVER - CTH K	10011080	OTHER	HOOK AND	18-Jul-18	LAKE STUR	LAKE STURGEON	1			
2018	NAMEKAGON RIVER - CTH K	10011080	OTHER	HOOK AND	31-Jul-18	LAKE STUR	LAKE STURGEON	1			
2018	NAMEKAGON RIVER - CTH K	10011080	OTHER	HOOK AND	31-Jul-18	LAKE STUR	LAKE STURGEON	1			
2018	NAMEKAGON RIVER - CTH K	10011080	OTHER	HOOK AND	31-Jul-18	LAKE STUR	LAKE STURGEON	1			
2018	NAMEKAGON RIVER - CTH K	10011080	OTHER	HOOK AND	31-Jul-18	LAKE STUR	LAKE STURGEON	1			
2018	NAMEKAGON RIVER - CTH K	10011080	OTHER	HOOK AND	31-Jul-18	LAKE STUR	LAKE STURGEON	1			
2018	NAMEKAGON RIVER - CTH K	10011080	OTHER	HOOK AND	31-Jul-18	LAKE STUR	LAKE STURGEON	1			
2018	NAMEKAGON RIVER - CTH K	10011080	OTHER	HOOK AND	31-Jul-18	LAKE STUR	LAKE STURGEON	1			
2018	NAMEKAGON RIVER - CTH K	10011080	OTHER	HOOK AND	31-Jul-18	LAKE STUR	LAKE STURGEON	1			
2018	NAMEKAGON RIVER - CTH K	10011080	OTHER	HOOK AND	31-Jul-18	LAKE STUR	LAKE STURGEON	1			
2018	NAMEKAGON RIVER - CTH K	10011080	OTHER	HOOK AND	7-Aug-18	LAKE STUR	LAKE STURGEON	1			
2018	NAMEKAGON RIVER - CTH K	10011080	OTHER	HOOK AND	7-Aug-18	LAKE STUR	LAKE STURGEON	1			
2018	NAMEKAGON RIVER - CTH K	10011080	OTHER	HOOK AND	9-Aug-18	LAKE STUR	LAKE STURGEON	1			
2019	NAMEKAGON RIVER - CTH K	10011080	OTHER	HOOK AND	28-Aug-19	LAKE STUR	LAKE STURGEON	1			
2019	NAMEKAGON RIVER - CTH K	10011080	OTHER	HOOK AND	28-Aug-19	LAKE STUR	LAKE STURGEON	1			
2019	NAMEKAGON RIVER - CTH K	10011080	OTHER	HOOK AND	28-Aug-19	LAKE STUR	LAKE STURGEON	1			
2019	NAMEKAGON RIVER - CTH K	10011080	OTHER	HOOK AND	28-Aug-19	LAKE STUR	LAKE STURGEON	1			
2019	NAMEKAGON RIVER - CTH K	10011080	OTHER	HOOK AND	28-Aug-19	LAKE STUR	LAKE STURGEON	1	26	1.08%	
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	1-Sep-04	ALL SPECIE	LOGPERCH	1			
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	29-Aug-18	ALL SPECIE	LOGPERCH	1	2	0.08%	
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	6-Sep-05	ALL SPECIE	LONGNOSE DACE	1	1	0.04%	
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-03	GAMEFISH	MUSKELLUNGE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-03	GAMEFISH	MUSKELLUNGE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-03	GAMEFISH	MUSKELLUNGE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-03	GAMEFISH	MUSKELLUNGE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-03	GAMEFISH	MUSKELLUNGE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	1-Sep-04	ALL SPECIE	MUSKELLUNGE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	1-Sep-04	GAMEFISH	MUSKELLUNGE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	1-Sep-04	GAMEFISH	MUSKELLUNGE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	1-Sep-04	GAMEFISH	MUSKELLUNGE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	1-Sep-04	GAMEFISH	MUSKELLUNGE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	1-Sep-04	GAMEFISH	MUSKELLUNGE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	6-Sep-05	GAMEFISH	MUSKELLUNGE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	6-Sep-05	GAMEFISH	MUSKELLUNGE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	6-Sep-05	GAMEFISH	MUSKELLUNGE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	6-Sep-05	GAMEFISH	MUSKELLUNGE	1			
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-06	ALL SPECIE	MUSKELLUNGE	1			
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-06	GAMEFISH	MUSKELLUNGE	1			

2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-06	GAMEFISH	MUSKELLUNGE	1		
2007	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	29-Aug-07	ALL SPECIE	MUSKELLUNGE	1		
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	9-Sep-08	ALL SPECIE	MUSKELLUNGE	1		
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	3-Sep-09	GAMEFISH	MUSKELLUNGE	1		
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	3-Sep-09	GAMEFISH	MUSKELLUNGE	1		
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	3-Sep-09	GAMEFISH	MUSKELLUNGE	1		
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	3-Sep-09	GAMEFISH	MUSKELLUNGE	1		
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	3-Sep-09	GAMEFISH	MUSKELLUNGE	1		
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	8-Sep-10	ALL SPECIE	MUSKELLUNGE	1		
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	8-Sep-10	ALL SPECIE	MUSKELLUNGE	1		
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	8-Sep-10	GAMEFISH	MUSKELLUNGE	1		
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	8-Sep-10	GAMEFISH	MUSKELLUNGE	1		
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	8-Sep-10	GAMEFISH	MUSKELLUNGE	1		
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	8-Sep-10	GAMEFISH	MUSKELLUNGE	1		
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	8-Sep-10	GAMEFISH	MUSKELLUNGE	1		
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	25-Aug-14	ALL SPECIE	MUSKELLUNGE	1		
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	25-Aug-14	ALL SPECIE	MUSKELLUNGE	1		
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	25-Aug-14	GAMEFISH	MUSKELLUNGE	1		
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	25-Aug-14	GAMEFISH	MUSKELLUNGE	1		
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	25-Aug-14	GAMEFISH	MUSKELLUNGE	1		
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	25-Aug-14	GAMEFISH	MUSKELLUNGE	1		
2016	NAMEKAGON RIVER - CTH K	10011080	OTHER	HOOK AND	1-Jun-18	MUSKELLU	MUSKELLUNGE	1		
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	29-Aug-18	ALL SPECIE	MUSKELLUNGE	1		
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	29-Aug-18	ALL SPECIE	MUSKELLUNGE	1		
2019	NAMEKAGON RIVER - CTH K	10011080	OTHER	HOOK AND	6-Oct-19	MUSKELLU	MUSKELLUNGE	1		
2019	NAMEKAGON RIVER - CTH K	10011080	OTHER	HOOK AND	30-Oct-19	MUSKELLU	MUSKELLUNGE	1	43	1.79%
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-03	ALL SPECIE	NORTHERN HOG SUCKER	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-03	ALL SPECIE	NORTHERN HOG SUCKER	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-03	ALL SPECIE	NORTHERN HOG SUCKER	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-03	ALL SPECIE	NORTHERN HOG SUCKER	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-03	ALL SPECIE	NORTHERN HOG SUCKER	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-03	ALL SPECIE	NORTHERN HOG SUCKER	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-03	ALL SPECIE	NORTHERN HOG SUCKER	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-03	ALL SPECIE	NORTHERN HOG SUCKER	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-03	ALL SPECIE	NORTHERN HOG SUCKER	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-03	ALL SPECIE	NORTHERN HOG SUCKER	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-03	ALL SPECIE	NORTHERN HOG SUCKER	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-03	ALL SPECIE	NORTHERN HOG SUCKER	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-03	ALL SPECIE	NORTHERN HOG SUCKER	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-03	ALL SPECIE	NORTHERN HOG SUCKER	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-03	ALL SPECIE	NORTHERN HOG SUCKER	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-03	ALL SPECIE	NORTHERN HOG SUCKER	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-03	ALL SPECIE	NORTHERN HOG SUCKER	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-03	ALL SPECIE	NORTHERN HOG SUCKER	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-03	ALL SPECIE	NORTHERN HOG SUCKER	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-03	ALL SPECIE	NORTHERN HOG SUCKER	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-03	ALL SPECIE	NORTHERN HOG SUCKER	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-03	ALL SPECIE	NORTHERN HOG SUCKER	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-03	ALL SPECIE	NORTHERN HOG SUCKER	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-03	ALL SPECIE	NORTHERN HOG SUCKER	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-03	ALL SPECIE	NORTHERN HOG SUCKER	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-03	ALL SPECIE	NORTHERN HOG SUCKER	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-03	ALL SPECIE	NORTHERN HOG SUCKER	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-03	ALL SPECIE	NORTHERN HOG SUCKER	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-03	ALL SPECIE	NORTHERN HOG SUCKER	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-03	ALL SPECIE	NORTHERN HOG SUCKER	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-03	ALL SPECIE	NORTHERN HOG SUCKER	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	11-Sep-03	ALL SPECIE	NORTHERN HOG SUCKER	1		
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1		
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1		
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1		
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1		
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1		
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1		
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1		
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1		
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1		
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1		
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1		
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1		
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1		
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1		
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1		
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1		
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1		
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1		
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1		
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1		
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1		
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1		
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1		
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1		
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOM	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1		

2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	1-Sep-04	ALL SPECIE	NORTHERN HOG SUCKER	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	NORTHERN HOG SUCKER	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	NORTHERN HOG SUCKER	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	NORTHERN HOG SUCKER	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	NORTHERN HOG SUCKER	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	NORTHERN HOG SUCKER	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	NORTHERN HOG SUCKER	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	NORTHERN HOG SUCKER	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	NORTHERN HOG SUCKER	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	NORTHERN HOG SUCKER	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	NORTHERN HOG SUCKER	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	NORTHERN HOG SUCKER	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	NORTHERN HOG SUCKER	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	NORTHERN HOG SUCKER	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	NORTHERN HOG SUCKER	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	NORTHERN HOG SUCKER	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	NORTHERN HOG SUCKER	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	NORTHERN HOG SUCKER	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	NORTHERN HOG SUCKER	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	NORTHERN HOG SUCKER	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	NORTHERN HOG SUCKER	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	NORTHERN HOG SUCKER	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	NORTHERN HOG SUCKER	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	NORTHERN HOG SUCKER	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	NORTHERN HOG SUCKER	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	NORTHERN HOG SUCKER	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	NORTHERN HOG SUCKER	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	NORTHERN HOG SUCKER	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	NORTHERN HOG SUCKER	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	NORTHERN HOG SUCKER	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	NORTHERN HOG SUCKER	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	NORTHERN HOG SUCKER	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	NORTHERN HOG SUCKER	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	NORTHERN HOG SUCKER	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	NORTHERN HOG SUCKER	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	NORTHERN HOG SUCKER	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	NORTHERN HOG SUCKER	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	NORTHERN HOG SUCKER	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	NORTHERN HOG SUCKER	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	NORTHERN HOG SUCKER	1
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	11-Sep-06	ALL SPECIE	NORTHERN HOG SUCKER	87
2007	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	29-Aug-07	ALL SPECIE	NORTHERN HOG SUCKER	50
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	9-Sep-08	ALL SPECIE	NORTHERN HOG SUCKER	93
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	3-Sep-09	ALL SPECIE	NORTHERN HOG SUCKER	45
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	8-Sep-10	ALL SPECIE	NORTHERN HOG SUCKER	59
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	25-Aug-14	ALL SPECIE	NORTHERN HOG SUCKER	4
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	25-Aug-14	ALL SPECIE	NORTHERN HOG SUCKER	8

2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-18	ALL SPECIE	NORTHERN HOG SUCKER	16			
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-18	ALL SPECIE	NORTHERN HOG SUCKER	1	498	20.76%	2
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	GAMEFISH	NORTHERN PIKE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	GAMEFISH	NORTHERN PIKE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	ALL SPECIE	NORTHERN PIKE	1			
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-06	ALL SPECIE	NORTHERN PIKE	1			
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-06	GAMEFISH	NORTHERN PIKE	1			
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	9-Sep-08	ALL SPECIE	NORTHERN PIKE	1			
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	9-Sep-08	ALL SPECIE	NORTHERN PIKE	1			
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	9-Sep-08	ALL SPECIE	NORTHERN PIKE	1			
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	9-Sep-08	GAMEFISH	NORTHERN PIKE	1			
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	9-Sep-08	GAMEFISH	NORTHERN PIKE	1			
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	3-Sep-09	ALL SPECIE	NORTHERN PIKE	1			
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	3-Sep-09	GAMEFISH	NORTHERN PIKE	1			
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	8-Sep-10	GAMEFISH	NORTHERN PIKE	1			
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	8-Sep-10	GAMEFISH	NORTHERN PIKE	1			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	ALL SPECIE	NORTHERN PIKE	1	15	0.63%	
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	RIVER REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	RIVER REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	GAMEFISH	RIVER REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	GAMEFISH	RIVER REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	GAMEFISH	RIVER REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	GAMEFISH	RIVER REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	GAMEFISH	RIVER REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	GAMEFISH	RIVER REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	GAMEFISH	RIVER REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	GAMEFISH	RIVER REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	GAMEFISH	RIVER REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	GAMEFISH	RIVER REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	GAMEFISH	RIVER REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	GAMEFISH	RIVER REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	GAMEFISH	RIVER REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	GAMEFISH	RIVER REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	GAMEFISH	RIVER REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	GAMEFISH	RIVER REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	GAMEFISH	RIVER REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	GAMEFISH	RIVER REDHORSE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	ALL SPECIE	RIVER REDHORSE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	ALL SPECIE	RIVER REDHORSE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	GAMEFISH	RIVER REDHORSE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	GAMEFISH	RIVER REDHORSE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	GAMEFISH	RIVER REDHORSE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	GAMEFISH	RIVER REDHORSE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	GAMEFISH	RIVER REDHORSE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	GAMEFISH	RIVER REDHORSE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	GAMEFISH	RIVER REDHORSE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	GAMEFISH	RIVER REDHORSE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	GAMEFISH	RIVER REDHORSE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	GAMEFISH	RIVER REDHORSE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	GAMEFISH	RIVER REDHORSE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	GAMEFISH	RIVER REDHORSE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	GAMEFISH	RIVER REDHORSE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	GAMEFISH	RIVER REDHORSE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	GAMEFISH	RIVER REDHORSE	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	GAMEFISH	RIVER REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	RIVER REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	RIVER REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	GAMEFISH	RIVER REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	GAMEFISH	RIVER REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	GAMEFISH	RIVER REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	GAMEFISH	RIVER REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	GAMEFISH	RIVER REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	GAMEFISH	RIVER REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	GAMEFISH	RIVER REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	GAMEFISH	RIVER REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	GAMEFISH	RIVER REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	GAMEFISH	RIVER REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	GAMEFISH	RIVER REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	GAMEFISH	RIVER REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	GAMEFISH	RIVER REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	GAMEFISH	RIVER REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	GAMEFISH	RIVER REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	GAMEFISH	RIVER REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	GAMEFISH	RIVER REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	GAMEFISH	RIVER REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	GAMEFISH	RIVER REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	GAMEFISH	RIVER REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	GAMEFISH	RIVER REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	GAMEFISH	RIVER REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	GAMEFISH	RIVER REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	GAMEFISH	RIVER REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	GAMEFISH	RIVER REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	GAMEFISH	RIVER REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	GAMEFISH	RIVER REDHORSE	1			
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-06	ALL SPECIE	RIVER REDHORSE	1			

2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-06	GAMEFISH	RIVER REDHORSE	5			
2007	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-07	ALL SPECIE	RIVER REDHORSE	8			
2007	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-07	GAMEFISH	RIVER REDHORSE	7			
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	9-Sep-08	ALL SPECIE	RIVER REDHORSE	7			
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	9-Sep-08	GAMEFISH	RIVER REDHORSE	30			
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	3-Sep-09	ALL SPECIE	RIVER REDHORSE	11			
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	3-Sep-09	GAMEFISH	RIVER REDHORSE	7			
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	8-Sep-10	ALL SPECIE	RIVER REDHORSE	8			
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	8-Sep-10	GAMEFISH	RIVER REDHORSE	9			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	ALL SPECIE	RIVER REDHORSE	2			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	ALL SPECIE	RIVER REDHORSE	2			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	ALL SPECIE	RIVER REDHORSE	2			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	ALL SPECIE	RIVER REDHORSE	2			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	ALL SPECIE	RIVER REDHORSE	3			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	ALL SPECIE	RIVER REDHORSE	3			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	ALL SPECIE	RIVER REDHORSE	3			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	ALL SPECIE	RIVER REDHORSE	1			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	ALL SPECIE	RIVER REDHORSE	1			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	ALL SPECIE	RIVER REDHORSE	2			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	ALL SPECIE	RIVER REDHORSE	3			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	ALL SPECIE	RIVER REDHORSE	3			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	ALL SPECIE	RIVER REDHORSE	3			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	ALL SPECIE	RIVER REDHORSE	5			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	ALL SPECIE	RIVER REDHORSE	5			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	ALL SPECIE	RIVER REDHORSE	4			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	ALL SPECIE	RIVER REDHORSE	3			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	GAMEFISH	RIVER REDHORSE	2			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	GAMEFISH	RIVER REDHORSE	2			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	GAMEFISH	RIVER REDHORSE	2			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	GAMEFISH	RIVER REDHORSE	1			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	GAMEFISH	RIVER REDHORSE	1			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	GAMEFISH	RIVER REDHORSE	2			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	GAMEFISH	RIVER REDHORSE	2			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	GAMEFISH	RIVER REDHORSE	2			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	GAMEFISH	RIVER REDHORSE	2			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	GAMEFISH	RIVER REDHORSE	2			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	GAMEFISH	RIVER REDHORSE	2			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	GAMEFISH	RIVER REDHORSE	2			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	GAMEFISH	RIVER REDHORSE	2			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	GAMEFISH	RIVER REDHORSE	2			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	GAMEFISH	RIVER REDHORSE	3			
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-18	ALL SPECIE	RIVER REDHORSE	1			
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-18	ALL SPECIE	RIVER REDHORSE	3			
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-18	ALL SPECIE	RIVER REDHORSE	2			
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-18	ALL SPECIE	RIVER REDHORSE	1			
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-18	ALL SPECIE	RIVER REDHORSE	1			
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-18	ALL SPECIE	RIVER REDHORSE	1			
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-18	GAMEFISH	RIVER REDHORSE	2			
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-18	GAMEFISH	RIVER REDHORSE	2			
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-18	GAMEFISH	RIVER REDHORSE	3			
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-18	GAMEFISH	RIVER REDHORSE	2			
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-18	GAMEFISH	RIVER REDHORSE	2			
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-18	GAMEFISH	RIVER REDHORSE	3			
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-18	GAMEFISH	RIVER REDHORSE	3			
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-18	GAMEFISH	RIVER REDHORSE	3	266	11.09%	4
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	ROCK BASS	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	ALL SPECIE	ROCK BASS	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	ROCK BASS	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	ROCK BASS	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	ROCK BASS	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	ROCK BASS	1			
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-06	ALL SPECIE	ROCK BASS	4			
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	9-Sep-08	ALL SPECIE	ROCK BASS	1	11	0.46%	
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1			

2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	11-Sep-03	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	1-Sep-04	ALL SPECIE	SHORTHEAD REDHORSE	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOO	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1

2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	2			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	2			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	2			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1			
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	SHORTHEAD REDHORSE	1			
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-06	ALL SPECIE	SHORTHEAD REDHORSE	47			
2007	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-07	ALL SPECIE	SHORTHEAD REDHORSE	28			
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	9-Sep-08	ALL SPECIE	SHORTHEAD REDHORSE	86			
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	3-Sep-09	ALL SPECIE	SHORTHEAD REDHORSE	75			
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	8-Sep-10	ALL SPECIE	SHORTHEAD REDHORSE	76			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	ALL SPECIE	SHORTHEAD REDHORSE	13			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	ALL SPECIE	SHORTHEAD REDHORSE	14			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	ALL SPECIE	SHORTHEAD REDHORSE	11			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	ALL SPECIE	SHORTHEAD REDHORSE	7			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	ALL SPECIE	SHORTHEAD REDHORSE	16			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	ALL SPECIE	SHORTHEAD REDHORSE	8			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	ALL SPECIE	SHORTHEAD REDHORSE	4			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	ALL SPECIE	SHORTHEAD REDHORSE	13			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	ALL SPECIE	SHORTHEAD REDHORSE	17			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	ALL SPECIE	SHORTHEAD REDHORSE	14			
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-18	ALL SPECIE	SHORTHEAD REDHORSE	2			
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-18	ALL SPECIE	SHORTHEAD REDHORSE	11			
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-18	ALL SPECIE	SHORTHEAD REDHORSE	11			
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-18	ALL SPECIE	SHORTHEAD REDHORSE	3			
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-18	ALL SPECIE	SHORTHEAD REDHORSE	4			
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-18	ALL SPECIE	SHORTHEAD REDHORSE	6			
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-18	ALL SPECIE	SHORTHEAD REDHORSE	7			
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-18	ALL SPECIE	SHORTHEAD REDHORSE	12			
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-18	ALL SPECIE	SHORTHEAD REDHORSE	4	629	26.22%	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	SILVER REDHORSE	1			
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-06	ALL SPECIE	SILVER REDHORSE	3			
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	9-Sep-08	ALL SPECIE	SILVER REDHORSE	4			
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	3-Sep-09	ALL SPECIE	SILVER REDHORSE	6			
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	8-Sep-10	ALL SPECIE	SILVER REDHORSE	2			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	ALL SPECIE	SILVER REDHORSE	1			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	ALL SPECIE	SILVER REDHORSE	3			
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	ALL SPECIE	SILVER REDHORSE	1			
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-18	ALL SPECIE	SILVER REDHORSE	1			
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-18	ALL SPECIE	SILVER REDHORSE	1			
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-18	ALL SPECIE	SILVER REDHORSE	2	25	1.04%	
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	SMALLMOUTH BASS	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	SMALLMOUTH BASS	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	SMALLMOUTH BASS	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	SMALLMOUTH BASS	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	SMALLMOUTH BASS	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	SMALLMOUTH BASS	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	GAMEFISH	SMALLMOUTH BASS	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	GAMEFISH	SMALLMOUTH BASS	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	GAMEFISH	SMALLMOUTH BASS	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	GAMEFISH	SMALLMOUTH BASS	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	GAMEFISH	SMALLMOUTH BASS	1			
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	GAMEFISH	SMALLMOUTH BASS	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	GAMEFISH	SMALLMOUTH BASS	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	GAMEFISH	SMALLMOUTH BASS	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	GAMEFISH	SMALLMOUTH BASS	1			
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	GAMEFISH	SMALLMOUTH BASS	1			

2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	1-Sep-04	GAMEFISH	SMALLMOUTH BASS	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	SMALLMOUTH BASS	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	ALL SPECIE	SMALLMOUTH BASS	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	GAMEFISH	SMALLMOUTH BASS	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	GAMEFISH	SMALLMOUTH BASS	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	GAMEFISH	SMALLMOUTH BASS	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	GAMEFISH	SMALLMOUTH BASS	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	GAMEFISH	SMALLMOUTH BASS	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	GAMEFISH	SMALLMOUTH BASS	1
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	6-Sep-05	GAMEFISH	SMALLMOUTH BASS	1
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	11-Sep-06	ALL SPECIE	SMALLMOUTH BASS	1
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	11-Sep-06	ALL SPECIE	SMALLMOUTH BASS	1
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	11-Sep-06	ALL SPECIE	SMALLMOUTH BASS	1
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	11-Sep-06	ALL SPECIE	SMALLMOUTH BASS	1
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	11-Sep-06	ALL SPECIE	SMALLMOUTH BASS	1
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	11-Sep-06	ALL SPECIE	SMALLMOUTH BASS	1
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	11-Sep-06	ALL SPECIE	SMALLMOUTH BASS	1
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	11-Sep-06	ALL SPECIE	SMALLMOUTH BASS	1
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	11-Sep-06	ALL SPECIE	SMALLMOUTH BASS	1
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	11-Sep-06	ALL SPECIE	SMALLMOUTH BASS	1
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	11-Sep-06	ALL SPECIE	SMALLMOUTH BASS	1
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	11-Sep-06	ALL SPECIE	SMALLMOUTH BASS	1
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	11-Sep-06	ALL SPECIE	SMALLMOUTH BASS	1
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	11-Sep-06	ALL SPECIE	SMALLMOUTH BASS	1
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	11-Sep-06	ALL SPECIE	SMALLMOUTH BASS	1
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	11-Sep-06	ALL SPECIE	SMALLMOUTH BASS	1
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	11-Sep-06	GAMEFISH	SMALLMOUTH BASS	1
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	11-Sep-06	GAMEFISH	SMALLMOUTH BASS	1
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	11-Sep-06	GAMEFISH	SMALLMOUTH BASS	1
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	11-Sep-06	GAMEFISH	SMALLMOUTH BASS	1
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	11-Sep-06	GAMEFISH	SMALLMOUTH BASS	1
2007	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	29-Aug-07	ALL SPECIE	SMALLMOUTH BASS	1
2007	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	29-Aug-07	ALL SPECIE	SMALLMOUTH BASS	1
2007	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	29-Aug-07	ALL SPECIE	SMALLMOUTH BASS	1
2007	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	29-Aug-07	GAMEFISH	SMALLMOUTH BASS	1
2007	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	29-Aug-07	GAMEFISH	SMALLMOUTH BASS	1
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	9-Sep-08	ALL SPECIE	SMALLMOUTH BASS	2
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	9-Sep-08	ALL SPECIE	SMALLMOUTH BASS	1
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	9-Sep-08	ALL SPECIE	SMALLMOUTH BASS	1
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	9-Sep-08	ALL SPECIE	SMALLMOUTH BASS	1
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	9-Sep-08	ALL SPECIE	SMALLMOUTH BASS	1
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	9-Sep-08	ALL SPECIE	SMALLMOUTH BASS	1
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	9-Sep-08	ALL SPECIE	SMALLMOUTH BASS	1
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	9-Sep-08	ALL SPECIE	SMALLMOUTH BASS	1
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	9-Sep-08	GAMEFISH	SMALLMOUTH BASS	2
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	9-Sep-08	GAMEFISH	SMALLMOUTH BASS	1
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	9-Sep-08	GAMEFISH	SMALLMOUTH BASS	1
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	9-Sep-08	GAMEFISH	SMALLMOUTH BASS	1
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	9-Sep-08	GAMEFISH	SMALLMOUTH BASS	2
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	9-Sep-08	GAMEFISH	SMALLMOUTH BASS	1
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	9-Sep-08	GAMEFISH	SMALLMOUTH BASS	1
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	9-Sep-08	GAMEFISH	SMALLMOUTH BASS	1
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	9-Sep-08	GAMEFISH	SMALLMOUTH BASS	1
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	9-Sep-08	GAMEFISH	SMALLMOUTH BASS	1
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	9-Sep-08	GAMEFISH	SMALLMOUTH BASS	1
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	9-Sep-08	GAMEFISH	SMALLMOUTH BASS	1
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	9-Sep-08	GAMEFISH	SMALLMOUTH BASS	1
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	9-Sep-08	GAMEFISH	SMALLMOUTH BASS	1
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	3-Sep-09	ALL SPECIE	SMALLMOUTH BASS	1
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	3-Sep-09	ALL SPECIE	SMALLMOUTH BASS	1
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	3-Sep-09	ALL SPECIE	SMALLMOUTH BASS	1
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	3-Sep-09	ALL SPECIE	SMALLMOUTH BASS	1
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	3-Sep-09	ALL SPECIE	SMALLMOUTH BASS	1
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	3-Sep-09	ALL SPECIE	SMALLMOUTH BASS	1
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	3-Sep-09	ALL SPECIE	SMALLMOUTH BASS	1
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	3-Sep-09	ALL SPECIE	SMALLMOUTH BASS	1
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	3-Sep-09	ALL SPECIE	SMALLMOUTH BASS	1
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	3-Sep-09	GAMEFISH	SMALLMOUTH BASS	1
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	3-Sep-09	GAMEFISH	SMALLMOUTH BASS	1
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	3-Sep-09	GAMEFISH	SMALLMOUTH BASS	1
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	3-Sep-09	GAMEFISH	SMALLMOUTH BASS	1
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	3-Sep-09	GAMEFISH	SMALLMOUTH BASS	1
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	3-Sep-09	GAMEFISH	SMALLMOUTH BASS	1
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	3-Sep-09	GAMEFISH	SMALLMOUTH BASS	1
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	3-Sep-09	GAMEFISH	SMALLMOUTH BASS	1
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	3-Sep-09	GAMEFISH	SMALLMOUTH BASS	1
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	3-Sep-09	GAMEFISH	SMALLMOUTH BASS	1
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	3-Sep-09	GAMEFISH	SMALLMOUTH BASS	1
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	3-Sep-09	GAMEFISH	SMALLMOUTH BASS	1
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	3-Sep-09	GAMEFISH	SMALLMOUTH BASS	1
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	3-Sep-09	GAMEFISH	SMALLMOUTH BASS	1
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	3-Sep-09	GAMEFISH	SMALLMOUTH BASS	1
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	8-Sep-10	ALL SPECIE	SMALLMOUTH BASS	1
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOOI	8-Sep-10	ALL SPECIE	SMALLMOUTH BASS	1

2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	8-Sep-10	ALL SPECIE	SMALLMOUTH BASS	1		
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	8-Sep-10	ALL SPECIE	SMALLMOUTH BASS	1		
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	8-Sep-10	ALL SPECIE	SMALLMOUTH BASS	1		
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	8-Sep-10	ALL SPECIE	SMALLMOUTH BASS	1		
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	8-Sep-10	ALL SPECIE	SMALLMOUTH BASS	1		
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	8-Sep-10	GAMEFISH	SMALLMOUTH BASS	1		
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	8-Sep-10	GAMEFISH	SMALLMOUTH BASS	1		
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	8-Sep-10	GAMEFISH	SMALLMOUTH BASS	1		
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	8-Sep-10	GAMEFISH	SMALLMOUTH BASS	1		
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	8-Sep-10	GAMEFISH	SMALLMOUTH BASS	1		
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	8-Sep-10	GAMEFISH	SMALLMOUTH BASS	1		
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	8-Sep-10	GAMEFISH	SMALLMOUTH BASS	1		
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	8-Sep-10	GAMEFISH	SMALLMOUTH BASS	1		
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	8-Sep-10	GAMEFISH	SMALLMOUTH BASS	1		
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	ALL SPECIE	SMALLMOUTH BASS	1		
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-18	ALL SPECIE	SMALLMOUTH BASS	1		
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-18	GAMEFISH	SMALLMOUTH BASS	1		
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-18	GAMEFISH	SMALLMOUTH BASS	1	121	5.04%
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	STONEROLLERS	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	STONEROLLERS	1		
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	ALL SPECIE	STONEROLLERS	1		
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	ALL SPECIE	STONEROLLERS	1		
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	ALL SPECIE	STONEROLLERS	1		
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	ALL SPECIE	STONEROLLERS	1		
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	STONEROLLERS	7		
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-06	ALL SPECIE	STONEROLLERS	24		
2007	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-07	ALL SPECIE	STONEROLLERS	5		
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	9-Sep-08	ALL SPECIE	STONEROLLERS	12	54	2.25%
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	ALL SPECIE	WALLEYE	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	GAMEFISH	WALLEYE	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	GAMEFISH	WALLEYE	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	GAMEFISH	WALLEYE	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	GAMEFISH	WALLEYE	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	GAMEFISH	WALLEYE	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	GAMEFISH	WALLEYE	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	GAMEFISH	WALLEYE	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	GAMEFISH	WALLEYE	1		
2003	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-03	GAMEFISH	WALLEYE	1		
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	ALL SPECIE	WALLEYE	1		
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	GAMEFISH	WALLEYE	1		
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	GAMEFISH	WALLEYE	1		
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	GAMEFISH	WALLEYE	1		
2004	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	1-Sep-04	GAMEFISH	WALLEYE	1		
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	WALLEYE	1		
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	WALLEYE	1		
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	WALLEYE	1		
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	WALLEYE	1		
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	ALL SPECIE	WALLEYE	1		
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	GAMEFISH	WALLEYE	1		
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	GAMEFISH	WALLEYE	1		
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	GAMEFISH	WALLEYE	1		
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	GAMEFISH	WALLEYE	1		
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	GAMEFISH	WALLEYE	1		
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	GAMEFISH	WALLEYE	1		
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	GAMEFISH	WALLEYE	1		
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	GAMEFISH	WALLEYE	1		
2005	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	6-Sep-05	GAMEFISH	WALLEYE	1		
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-06	ALL SPECIE	WALLEYE	1		
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-06	ALL SPECIE	WALLEYE	1		
2006	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	11-Sep-06	GAMEFISH	WALLEYE	1		
2007	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-07	GAMEFISH	WALLEYE	1		
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	9-Sep-08	ALL SPECIE	WALLEYE	1		
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	9-Sep-08	ALL SPECIE	WALLEYE	1		
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	9-Sep-08	GAMEFISH	WALLEYE	1		
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	9-Sep-08	GAMEFISH	WALLEYE	1		
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	9-Sep-08	GAMEFISH	WALLEYE	1		
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	9-Sep-08	GAMEFISH	WALLEYE	1		
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	9-Sep-08	GAMEFISH	WALLEYE	2		
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	9-Sep-08	GAMEFISH	WALLEYE	1		
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	9-Sep-08	GAMEFISH	WALLEYE	1		
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	9-Sep-08	GAMEFISH	WALLEYE	1		
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	9-Sep-08	GAMEFISH	WALLEYE	1		
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	3-Sep-09	ALL SPECIE	WALLEYE	1		
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	3-Sep-09	ALL SPECIE	WALLEYE	1		
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	3-Sep-09	ALL SPECIE	WALLEYE	1		
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	3-Sep-09	GAMEFISH	WALLEYE	1		
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	3-Sep-09	GAMEFISH	WALLEYE	1		
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	3-Sep-09	GAMEFISH	WALLEYE	1		
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	3-Sep-09	GAMEFISH	WALLEYE	1		
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	3-Sep-09	GAMEFISH	WALLEYE	1		
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	8-Sep-10	ALL SPECIE	WALLEYE	1		
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	8-Sep-10	ALL SPECIE	WALLEYE	1		
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	8-Sep-10	ALL SPECIE	WALLEYE	1		
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	8-Sep-10	GAMEFISH	WALLEYE	1		

2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	8-Sep-10	GAMEFISH	WALLEYE	1		
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	8-Sep-10	GAMEFISH	WALLEYE	1		
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	8-Sep-10	GAMEFISH	WALLEYE	1		
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	8-Sep-10	GAMEFISH	WALLEYE	1		
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	8-Sep-10	GAMEFISH	WALLEYE	1		
2010	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	8-Sep-10	GAMEFISH	WALLEYE	1		
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	GAMEFISH	WALLEYE	1		
2014	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	25-Aug-14	GAMEFISH	WALLEYE	1		
2018	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-18	GAMEFISH	WALLEYE	1	66	2.75%
2007	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	29-Aug-07	ALL SPECIE	WHITE SUCKER	2		
2008	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	9-Sep-08	ALL SPECIE	WHITE SUCKER	1		
2009	NAMEKAGON RIVER - CTH K	10011080	ELECTROFISHING	MINI BOON	3-Sep-09	ALL SPECIE	WHITE SUCKER	1	4	0.17%
									2399	

APPENDIX 4.4.1.1-5 WDNR Hayward Project Fish Stocking Data

Year	Species	Strain Stocl	Age Class	Number Fish Stocked	
1979	MUSKELLUNGE	UNSPECIFIE	FINGERLING	300	
1983	MUSKELLUNGE	UNSPECIFIE	FINGERLING	200	
1985	MUSKELLUNGE	UNSPECIFIE	FINGERLING	247	
1986	MUSKELLUNGE	UNSPECIFIE	FINGERLING	894	
1987	MUSKELLUNGE	UNSPECIFIE	FINGERLING	247	
1988	MUSKELLUNGE	UNSPECIFIE	FINGERLING	200	
1990	MUSKELLUNGE	UNSPECIFIE	FINGERLING	200	
1991	MUSKELLUNGE	UNSPECIFIE	FINGERLING	200	
1992	MUSKELLUNGE	UNSPECIFIE	FINGERLING	347	
1993	MUSKELLUNGE	UNSPECIFIE	FINGERLING	247	
1996	MUSKELLUNGE	UNSPECIFIE	FINGERLING	247	
1998	MUSKELLUNGE	UNSPECIFIE	LARGE FINGERLING	247	
2000	MUSKELLUNGE	UNSPECIFIE	LARGE FINGERLING	124	
2002	MUSKELLUNGE	UNSPECIFIE	LARGE FINGERLING	247	
2004	MUSKELLUNGE	UNSPECIFIE	LARGE FINGERLING	247	
2006	MUSKELLUNGE	UPPER CHI	LARGE FINGERLING	136	
2008	MUSKELLUNGE	UPPER CHI	LARGE FINGERLING	247	
2010	MUSKELLUNGE	UPPER WIS	LARGE FINGERLING	185	
2012	MUSKELLUNGE	UPPER CHI	LARGE FINGERLING	247	
2014	MUSKELLUNGE	UPPER CHI	LARGE FINGERLING	253	
2019	MUSKELLUNGE	UPPER CHI	LARGE FINGERLING	100	5362
2003	PANFISH	UNSPECIFIE	ADULT (FIELD TRANSFER)	250	250
1982	WALLEYE	UNSPECIFIE	FINGERLING	10325	
1983	WALLEYE	UNSPECIFIE	FINGERLING	10215	
1986	WALLEYE	UNSPECIFIE	FINGERLING	11046	
1988	WALLEYE	UNSPECIFIE	FINGERLING	9982	
1990	WALLEYE	UNSPECIFIE	FINGERLING	10176	
1992	WALLEYE	UNSPECIFIE	FINGERLING	14880	
1994	WALLEYE	UNSPECIFIE	FINGERLING	12460	
1995	WALLEYE	UNSPECIFIE	FINGERLING	2520	
1996	WALLEYE	UNSPECIFIE	FINGERLING	2470	
1997	WALLEYE	UNSPECIFIE	LARGE FINGERLING	2460	
1998	WALLEYE	UNSPECIFIE	LARGE FINGERLING	2470	
1999	WALLEYE	UNSPECIFIE	LARGE FINGERLING	4940	
2000	WALLEYE	UNSPECIFIE	LARGE FINGERLING	2470	
2001	WALLEYE	UNSPECIFIE	LARGE FINGERLING	2470	
2003	WALLEYE	MISSISSIPP	LARGE FINGERLING	2470	
2004	WALLEYE	MISSISSIPP	LARGE FINGERLING	2460	
2015	WALLEYE	MISSISSIPP	SMALL FINGERLING	18542	122356

APPENDIX 4.4.1.1-6 WDNR Trego Project Fish Stocking Data

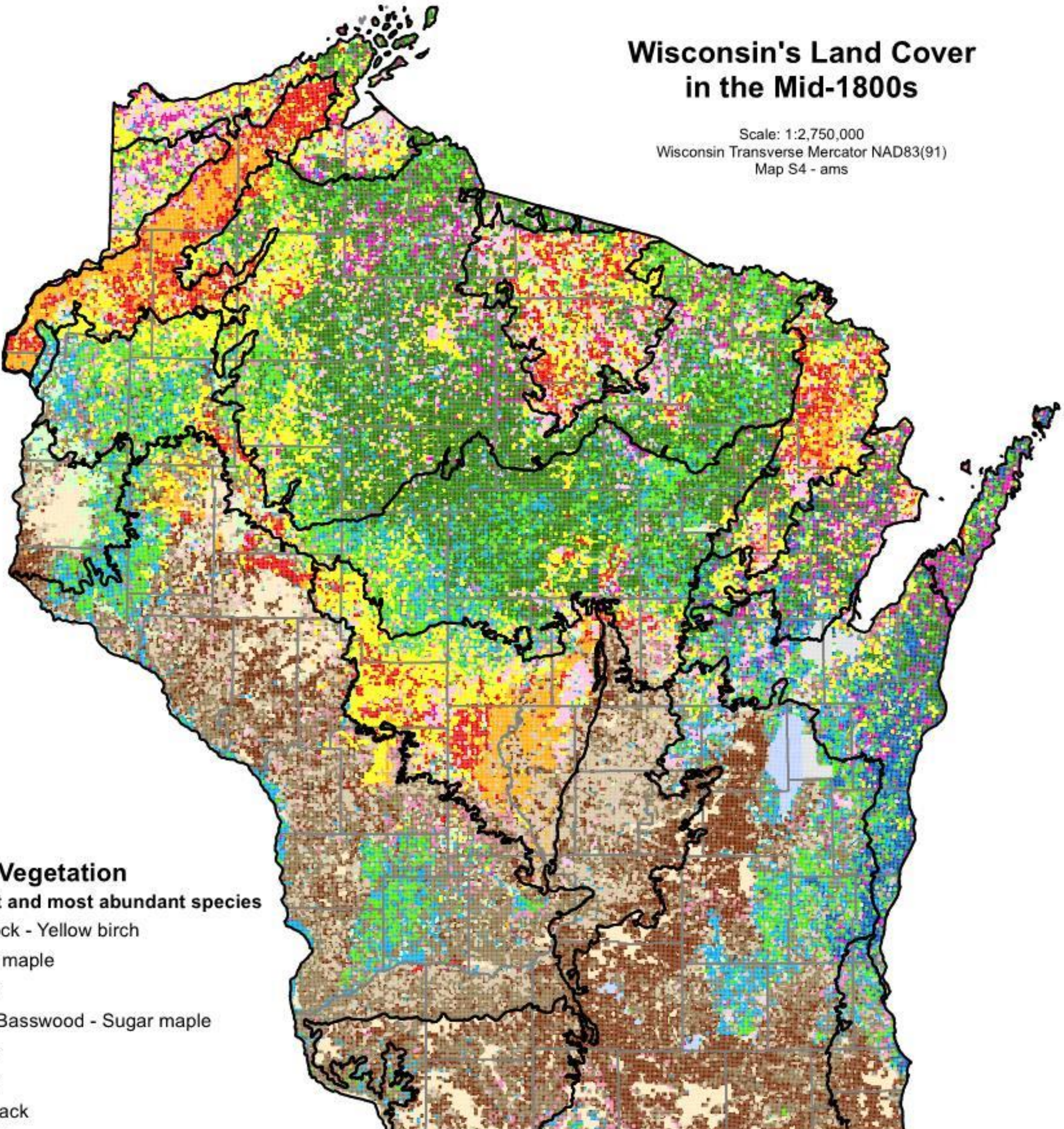
Year	Species	Source		Number	Size	Total
1972	BLUEGILL	UNSPECIFIED	ADULT	500	5	
1974	BLUEGILL	UNSPECIFIED	ADULT	500	5	
1975	BLUEGILL	UNSPECIFIED	ADULT	521		
1977	BLUEGILL	UNSPECIFIED	ADULT	204		
1979	BLUEGILL	UNSPECIFIED	ADULT	450		
1994	BLUEGILL	UNSPECIFIED	ADULT (FIELD TRANSFE	1144	6	3319
1984	CRAPPIES	UNSPECIFIED	ADULT	7000	7	7000
1995	LAKE STURGEON	UNSPECIFIED	FINGERLING	11406	5.75	
2002	LAKE STURGEON	YELLOW RIVER	LARGE FINGERLING	1011	6.4	
2003	LAKE STURGEON	YELLOW RIVER	LARGE FINGERLING	760	6.5	
2003	LAKE STURGEON	YELLOW RIVER	SMALL FINGERLING	1150	3.2	
2003	LAKE STURGEON	YELLOW RIVER	YEARLING	133	10.9	
2005	LAKE STURGEON	YELLOW RIVER	LARGE FINGERLING	253	6	
2006	LAKE STURGEON	YELLOW RIVER	LARGE FINGERLING	2248	5.3	
2010	LAKE STURGEON	YELLOW RIVER	LARGE FINGERLING	240	7.8	
2011	LAKE STURGEON	YELLOW RIVER	LARGE FINGERLING	478	7.5	
2012	LAKE STURGEON	YELLOW RIVER	LARGE FINGERLING	225	8.3	
2013	LAKE STURGEON	YELLOW RIVER	LARGE FINGERLING	158	8.6	
2015	LAKE STURGEON	YELLOW RIVER	LARGE FINGERLING	195	10.3	
2017	LAKE STURGEON	YELLOW RIVER	LARGE FINGERLING	1375	8.5	19632
1979	MUSKELLUNGE	UNSPECIFIED	FINGERLING	500	13	
1983	MUSKELLUNGE	UNSPECIFIED	FINGERLING	900	11	
1984	MUSKELLUNGE	UNSPECIFIED	FINGERLING	15	10	
1985	MUSKELLUNGE	UNSPECIFIED	FINGERLING	850	11	
1987	MUSKELLUNGE	UNSPECIFIED	FINGERLING	1350	10	
1988	MUSKELLUNGE	UNSPECIFIED	FINGERLING	400	11	
1990	MUSKELLUNGE	UNSPECIFIED	FINGERLING	450	9	
1991	MUSKELLUNGE	UNSPECIFIED	FINGERLING	409	12	
1992	MUSKELLUNGE	UNSPECIFIED	FINGERLING	450	8	
1993	MUSKELLUNGE	UNSPECIFIED	FINGERLING	450	12	
1996	MUSKELLUNGE	UNSPECIFIED	FINGERLING	450	10.9	
1998	MUSKELLUNGE	UNSPECIFIED	LARGE FINGERLING	450	11.6	
2000	MUSKELLUNGE	UNSPECIFIED	LARGE FINGERLING	450	11	
2002	MUSKELLUNGE	UNSPECIFIED	LARGE FINGERLING	220	10.7	
2004	MUSKELLUNGE	UNSPECIFIED	LARGE FINGERLING	225	10.8	
2006	MUSKELLUNGE	UPPER CHIPPEWA RI	LARGE FINGERLING	130	11.525	
2008	MUSKELLUNGE	UPPER CHIPPEWA RI	LARGE FINGERLING	225	10.1	
2010	MUSKELLUNGE	UPPER CHIPPEWA RI	LARGE FINGERLING	100	11.7	
2012	MUSKELLUNGE	UPPER CHIPPEWA RI	LARGE FINGERLING	225	12.6	
2014	MUSKELLUNGE	UPPER CHIPPEWA RI	LARGE FINGERLING	135	11.03333	
2016	MUSKELLUNGE	UPPER CHIPPEWA RI	LARGE FINGERLING	142	12	
2018	MUSKELLUNGE	UPPER CHIPPEWA RI	LARGE FINGERLING	108	12.2	8634
1983	NORTHERN PIKE	UNSPECIFIED	FRY	58523	1	58523
1976	PANFISH	UNSPECIFIED	ADULT	500		
1978	PANFISH	UNSPECIFIED	ADULT	500		
1980	PANFISH	UNSPECIFIED	ADULT	450		

1981	PANFISH	UNSPECIFIED	ADULT	580		2030
1979	WALLEYE	UNSPECIFIED	FRY	1000000		
1980	WALLEYE	UNSPECIFIED	FRY	500000		
1982	WALLEYE	UNSPECIFIED	FINGERLING	3336	5	
1982	WALLEYE	UNSPECIFIED	FRY	200000		
1983	WALLEYE	UNSPECIFIED	FRY	256000	1	
1984	WALLEYE	UNSPECIFIED	FINGERLING	10080	3	
1986	WALLEYE	UNSPECIFIED	FINGERLING	22618	3	
1989	WALLEYE	UNSPECIFIED	FINGERLING	22475	3	
1991	WALLEYE	UNSPECIFIED	FINGERLING	21410	2.666667	
1993	WALLEYE	UNSPECIFIED	FINGERLING	22550	2	
1995	WALLEYE	UNSPECIFIED	FINGERLING	22538	2.45	
1997	WALLEYE	UNSPECIFIED	SMALL FINGERLING	22550	1.6	
1999	WALLEYE	UNSPECIFIED	SMALL FINGERLING	22550	1.3	
2001	WALLEYE	UNSPECIFIED	SMALL FINGERLING	22550	1.5	
2003	WALLEYE	MISSISSIPPI HEADW.	SMALL FINGERLING	22548	1.6	
2005	WALLEYE	MISSISSIPPI HEADW.	SMALL FINGERLING	22745	1.4	
2009	WALLEYE	MISSISSIPPI HEADW.	SMALL FINGERLING	15807	1.7	
2011	WALLEYE	MISSISSIPPI HEADW.	SMALL FINGERLING	16132	1.6	2225889

APPENDIX 4.5.1-1: Land Cover in the Mid-1800s

Wisconsin's Land Cover in the Mid-1800s

Scale: 1:2,750,000
Wisconsin Transverse Mercator NAD83(91)
Map S4 - ams



Native Vegetation

Dominant and most abundant species

- Hemlock - Yellow birch
- Sugar maple
- Aspen
- Elm - Basswood - Sugar maple
- Beech
- Cedar
- Tamarack
- Jack pine
- Red pine
- White pine
- Red oak
- Black oak - Jack oak
- Bur oak
- White oak
- Prairie
- Water
- No data
- Ecological Landscape
- County Boundaries

This data was compiled by the Forest Landscape Ecology Lab at the University of Wisconsin - Madison (http://landscape.forest.wisc.edu/). It is published here courtesy of David J. Mladenoff.

For more information about the General Land Office Public Land Survey, see Schulte L.A. and Mladenoff D.J. 2001. The original Public Land Survey records: their use and limitations in reconstructing presettlement vegetation. J. Forestry 99(10) 5-10.

0 12.5 25 50 75 100 Miles

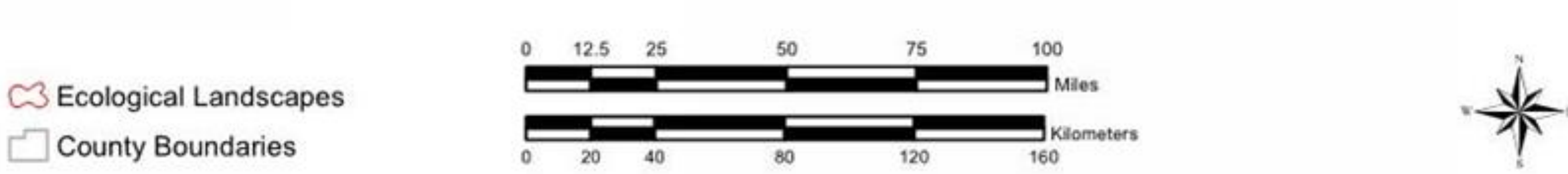
0 20 40 80 120 160 Kilometers

APPENDIX 4.5-1: Ecological Landscapes of Wisconsin

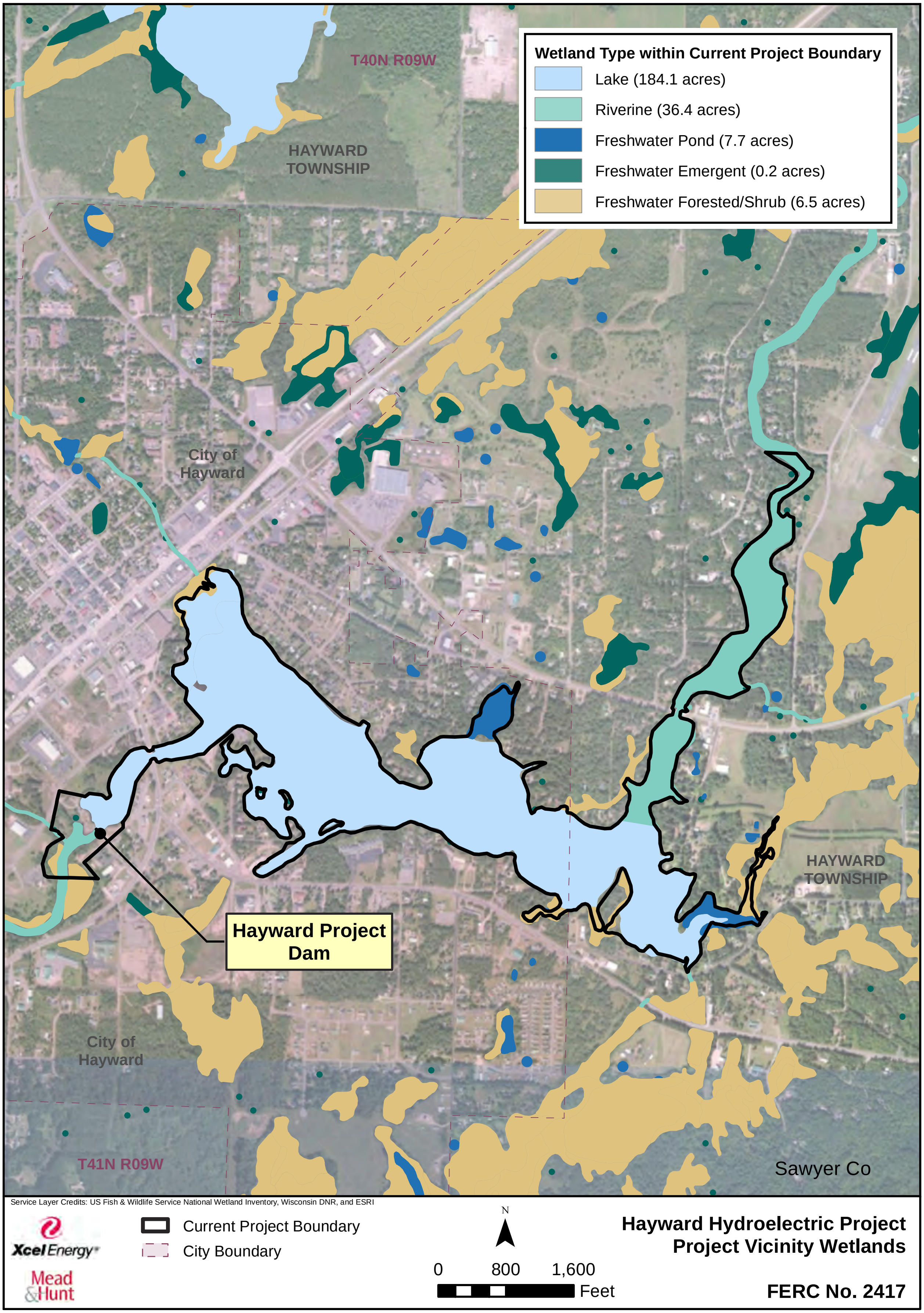
Ecological Landscapes of Wisconsin

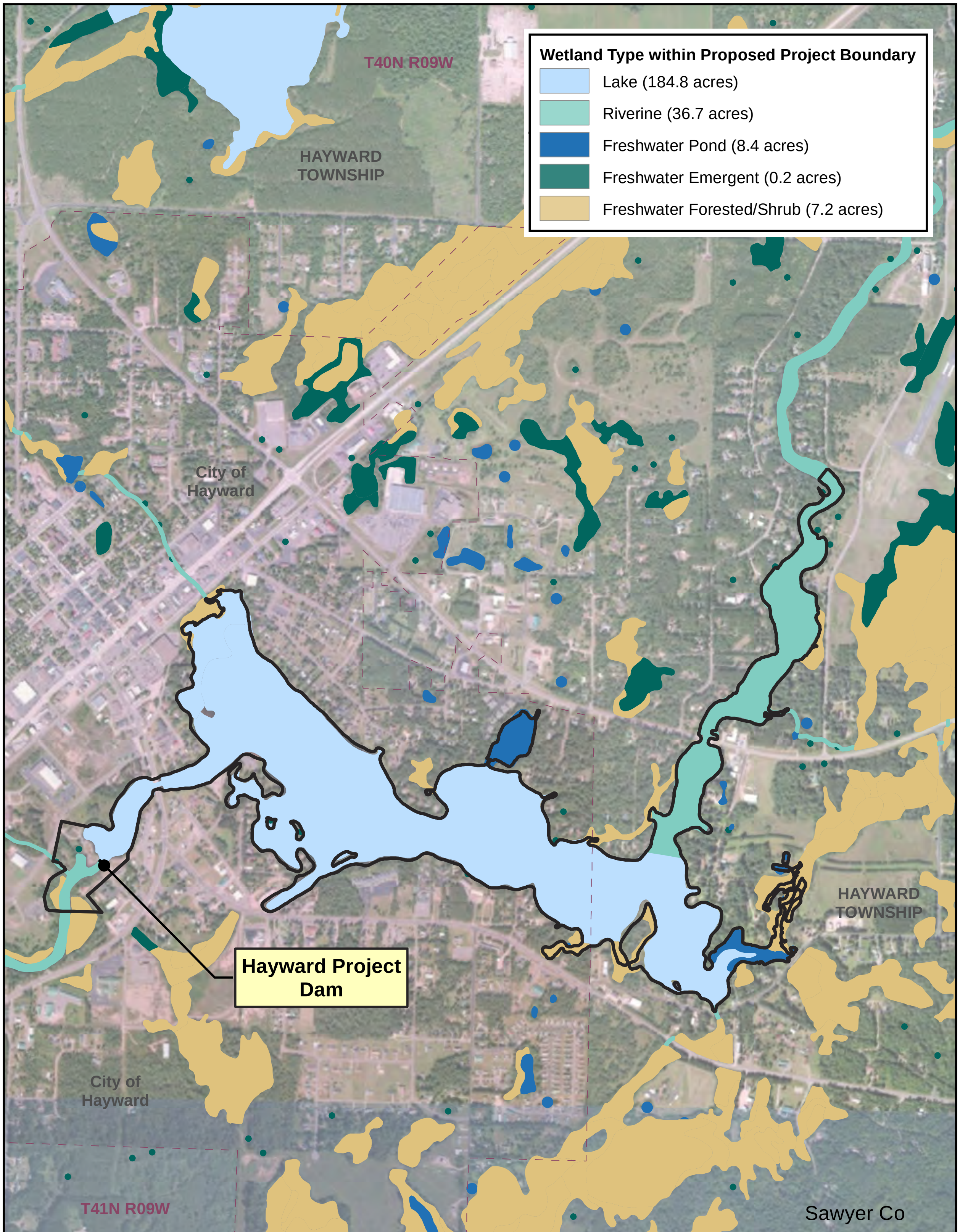
Scale: 1:2,750,000
Wisconsin Transverse Mercator NAD83(91)
Map S1 - ams

Wisconsin was divided into 16 ecoregions with similar ecology and management opportunities. Each of these ecoregions is called an Ecological Landscape. The Ecological Landscapes are based on the National Hierarchical Framework of Ecological Units (NHFEU; Cleland et al. 1997). There were too many NHFEU Subsections and too few NHFEU Sections to be useful for management purposes. Ecological Landscapes use the same boundaries as NHFEU Sections or Subsections. However, some NHFEU Subsections were combined to reduce the number of geographical units in the state to a manageable number. Therefore, Ecological Landscapes are at a size (scale) between NHFEU Sections and Subsections.



APPENDIX 4.6.2-1 Wetlands in the Vicinity of the Projects


Wetland Type within Current Project Boundary
Lake (184.1 acres)
Riverine (36.4 acres)
Freshwater Pond (7.7 acres)
Freshwater Emergent (0.2 acres)
Freshwater Forested/Shrub (6.5 acres)
T40N R09W
HAYWARD TOWNSHIP
City of Hayward
HAYWARD TOWNSHIP
Hayward Project Dam
City of Hayward
T41N R09W
Sawyer Co
Service Layer Credits: US Fish & Wildlife Service National Wetland Inventory, Wisconsin DNR, and ESRI
Xcel Energy
Mead &Hunt
Current Project Boundary
City Boundary
N
0
800
1,600
Feet
Hayward Hydroelectric Project
Project Vicinity Wetlands
FERC No. 2417



Service Layer Credits: US Fish & Wildlife Service National Wetland Inventory, Wisconsin DNR, and ESRI

Xcel Energy

Mead & Hunt

Proposed Project Boundary

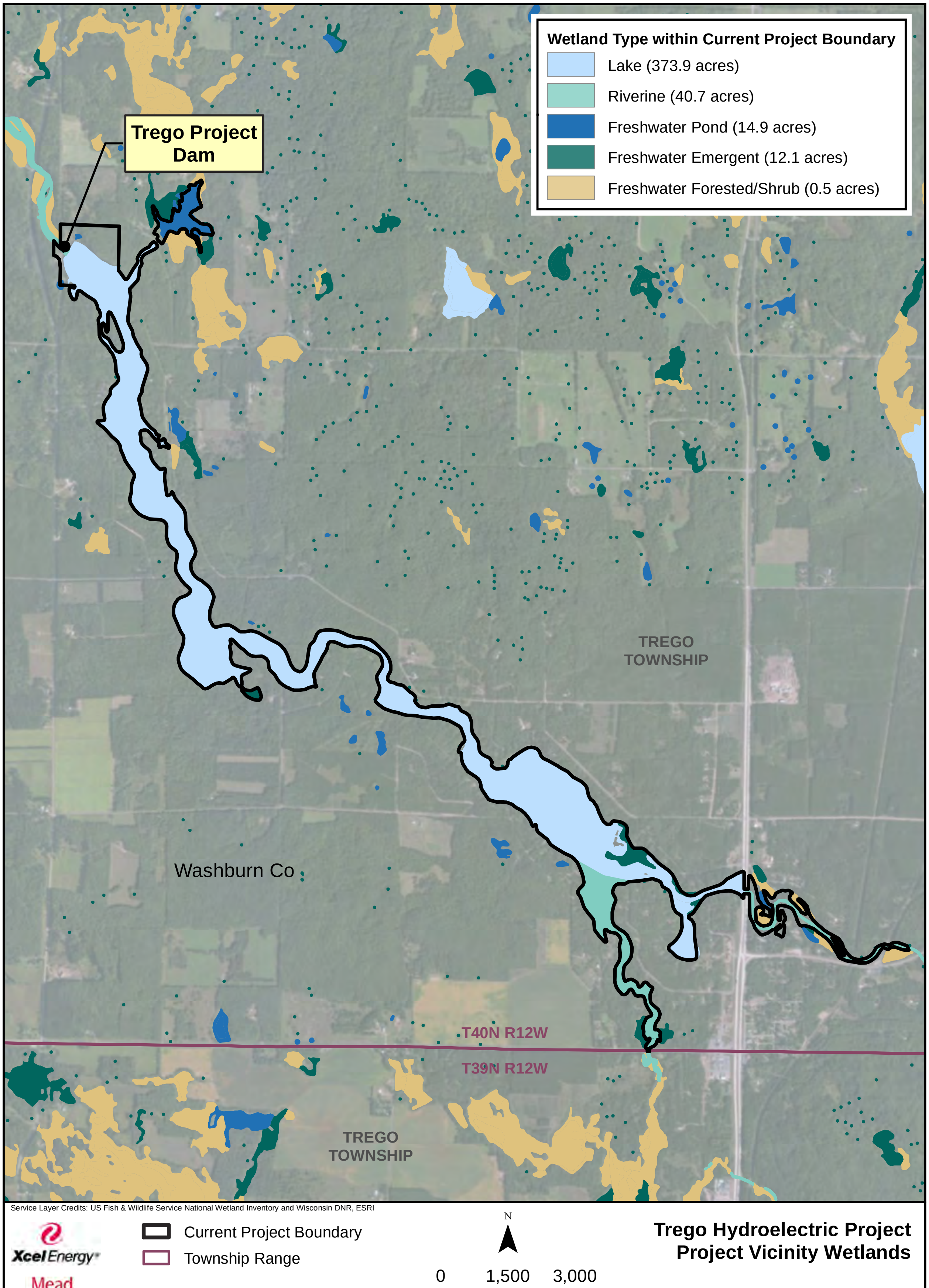
City Boundary

N

0 800 1,600 Feet

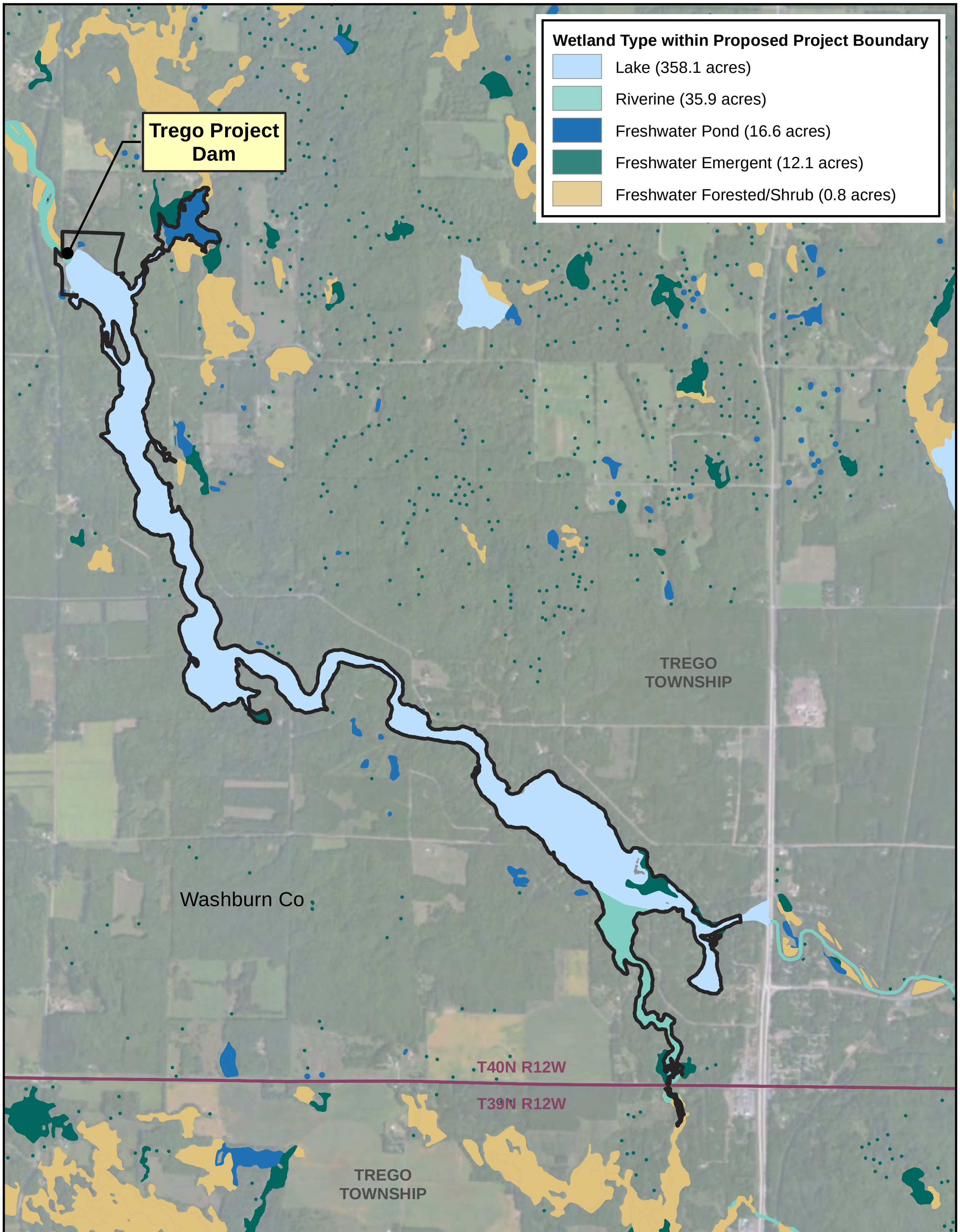
Hayward Hydroelectric Project
Project Vicinity Wetlands

FERC No. 2417



Trego Hydroelectric Project
Project Vicinity Wetlands

FERC No. 2711



Service Layer Credits: US Fish & Wildlife Service National Wetland Inventory and Wisconsin DNR, ESRI

Xcel Energy
Mead & Hunt

Proposed Project Boundary
Township Range

N
0 1,500 3,000 Feet

Trego Hydroelectric Project
Project Vicinity Wetlands

FERC No. 2711

APPENDIX 4.7.2-1 **Hayward Project IPaC List**

IPaC **U.S. Fish & Wildlife Service**

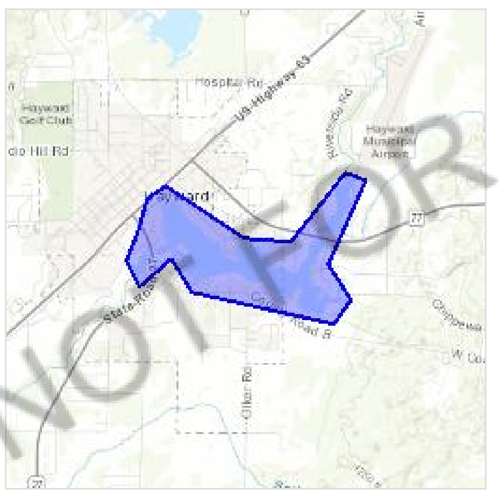
IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Sawyer County, Wisconsin



Local office

Green Bay Ecological Services Field Office

(920) 866-1717
(920) 866-1710

2661 Scott Tower Drive
New Franken, WI 54229-9565

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS

Canada Lynx *Lynx canadensis* There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/3652	Threatened
Gray Wolf *Canis lupus* There is **final** critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/4488	Endangered
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

---

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31
Black Tern *Chlidonias niger* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/3093	Breeds May 15 to Aug 20
Bobolink *Dolichonyx oryzivorus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 20 to Jul 31

Rusty Blackbird *Euphagus carolinus* Breeds May 10 to Jul 20

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

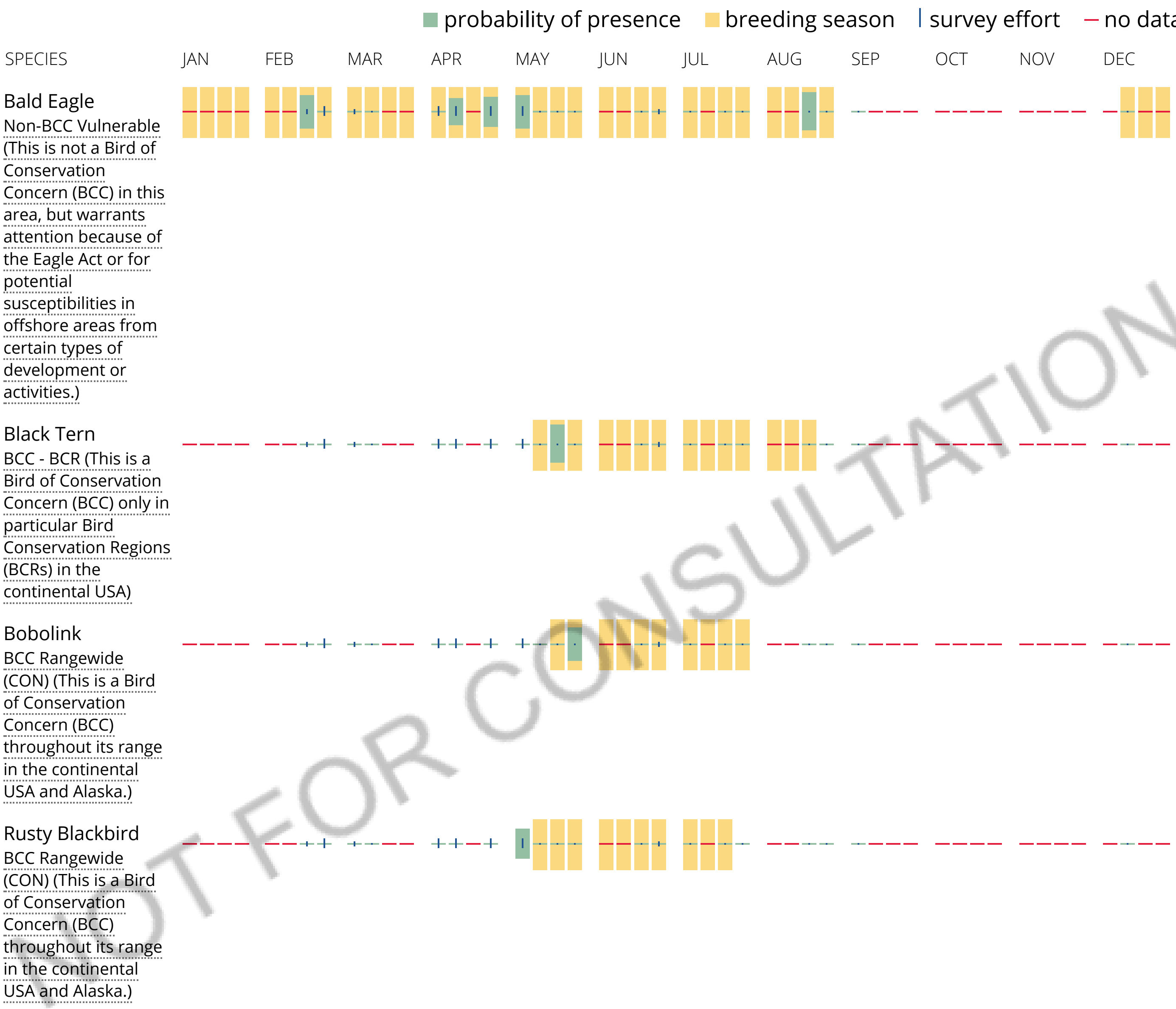
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ “What does IPaC use to generate the migratory birds potentially occurring in my specified location”. Please be aware this report provides the “probability of presence” of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the “no data” indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ “Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds” at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

- PEM1C

FRESHWATER FORESTED/SHRUB WETLAND

- PSS1/EM1Bg
- PSS1Bg
- PFO1/4Bg
- PFO1/SS1Bg
- PFO4/SS3Bg

FRESHWATER POND

- PUBH
- PABG

LAKE

- L1UBH
- L2ABH

RIVERINE

- R2UBH
- R5UBH

A full description for each wetland code can be found at the National Wetlands Inventory website

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

APPENDIX 4.7.2-2 Trego Project IPaC List

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Washburn County, Wisconsin

Local office

Green Bay Ecological Services Field Office

(920) 866-1717
(920) 866-1710

2661 Scott Tower Drive
New Franken, WI 54229-9565

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS

Canada Lynx Lynx canadensis — Threatened
There is **final** critical habitat for this species. Your location is outside the critical habitat.
https://ecos.fws.gov/ecp/species/3652

Gray Wolf Canis lupus — Endangered
There is **final** critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/4488

Northern Long-eared Bat Myotis septentrionalis — Threatened
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/9045

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31
Black Tern Chlidonias niger This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/3093	Breeds May 15 to Aug 20
Black-billed Cuckoo Coccyzus erythropthalmus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9399	Breeds May 15 to Oct 10

Bobolink Dolichonyx oryzivorus — Breeds May 20 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Canada Warbler Cardellina canadensis — Breeds May 20 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Eastern Whip-poor-will Antrostomus vociferus — Breeds May 1 to Aug 20

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Evening Grosbeak Coccothraustes vespertinus — Breeds May 15 to Aug 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Golden Eagle Aquila chrysaetos — Breeds Jan 1 to Aug 31

This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

Golden-winged Warbler Vermivora chrysoptera — Breeds May 1 to Jul 20

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8745

Harris's Sparrow Zonotrichia querula — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Lesser Yellowlegs Tringa flavipes — Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9679

Red-headed Woodpecker Melanerpes erythrocephalus — Breeds May 10 to Sep 10

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Rusty Blackbird Euphagus carolinus — Breeds May 10 to Jul 20

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Wood Thrush Hylocichla mustelina Breeds May 10 to Aug 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ “Proper Interpretation and Use of Your Migratory Bird Report” before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

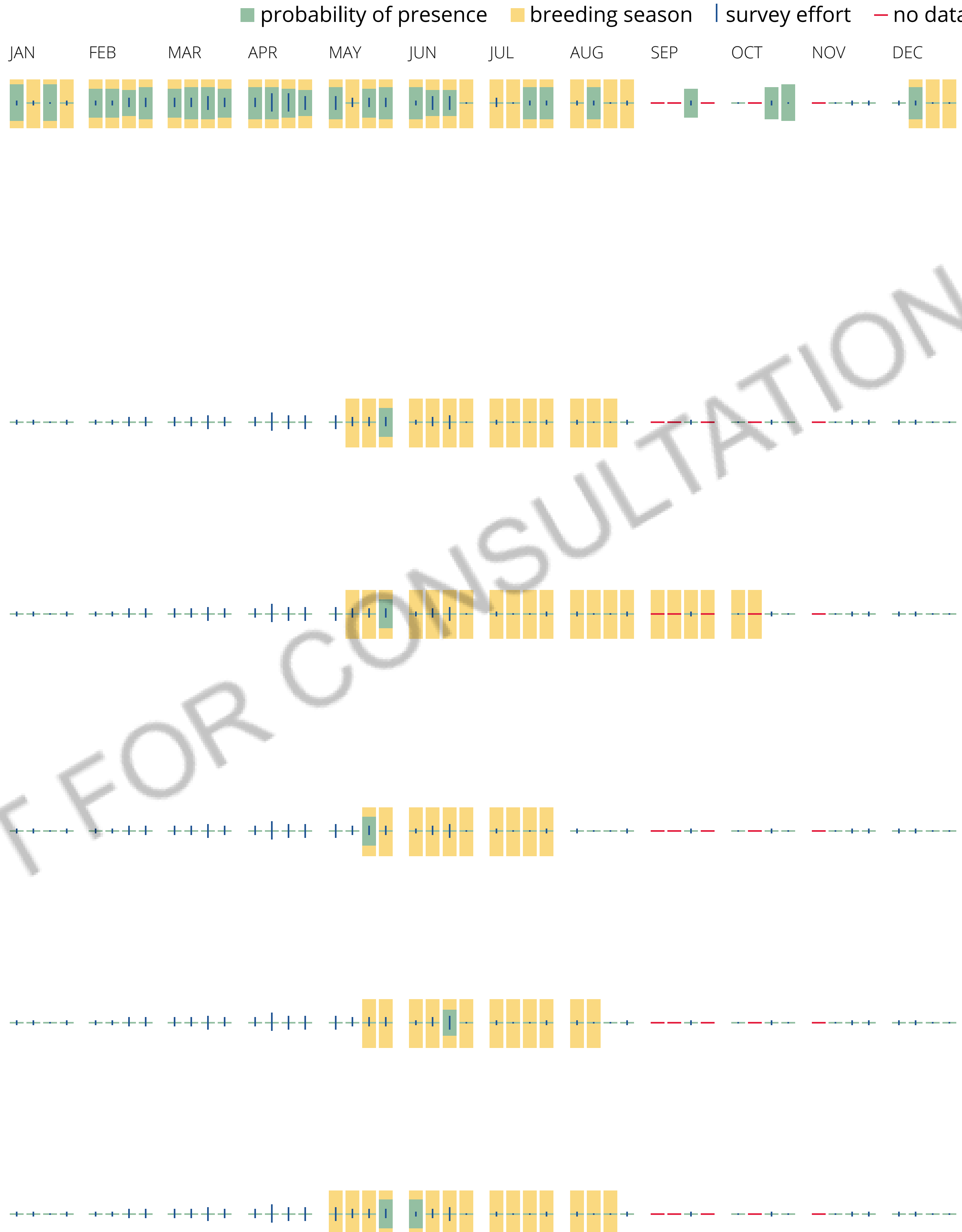
Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



Bald Eagle
Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)

Black Tern
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)

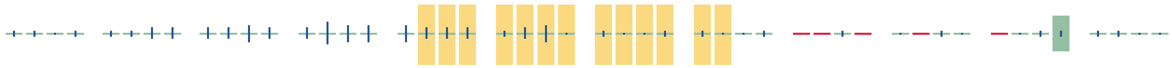
Black-billed Cuckoo
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Bobolink
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

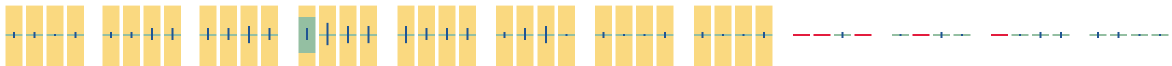
Canada Warbler
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Eastern Whip-poor-will
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

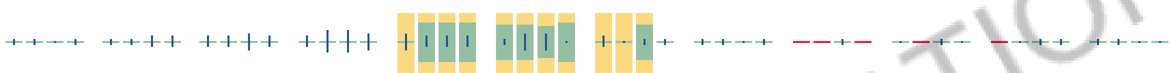
Evening Grosbeak
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Golden Eagle
Non-BCC Vulnerable (This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.)

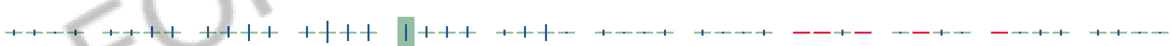


Golden-winged Warbler
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

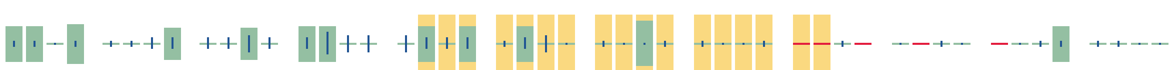


Harris's Sparrow
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

Lesser Yellowlegs
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

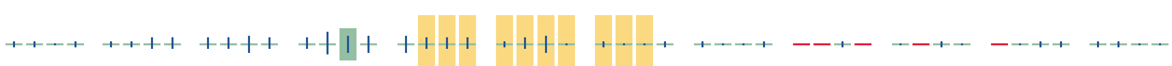


Red-headed Woodpecker
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

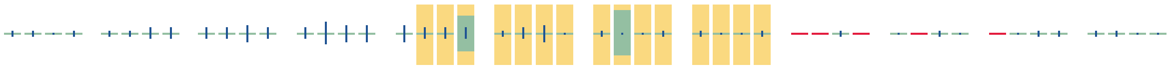


SPECIES JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

Rusty Blackbird
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Wood Thrush
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

This location overlaps the following wetlands:

FRESHWATER EMERGENT WETLAND

- PEM1/ABF
- PEM1C
- PEM1F

FRESHWATER FORESTED/SHRUB WETLAND

- PFO1C
- PSS1F

FRESHWATER POND

- PUBH

LAKE

- L1UBH
- L2AB3H

RIVERINE

- R5UBH
- R2UBH

A full description for each wetland code can be found at the National Wetlands Inventory website

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

APPENDIX 4.7.4-1 **Northern Long-Eared Bat 4D Rule**

Synopsis

As required by the Paperwork Reduction Act of 1995 (44 U.S.C. 3507), the FCC is notifying the public that it received final OMB approval on December 17, 2015, for the information collection requirements contained in the modifications to the Commission's rules in 47 CFR part 5. Under 5 CFR part 1320, an agency may not conduct or sponsor a collection of information unless it displays a current, valid OMB Control Number. No person shall be subject to any penalty for failing to comply with a collection of information subject to the Paperwork Reduction Act that does not display a current, valid OMB Control Number. The OMB Control Number is 3060–0065. The foregoing notice is required by the Paperwork Reduction Act of 1995, Public Law 104–13, October 1, 1995, and 44 U.S.C. 3507.

The total annual reporting burdens and costs for the respondents are as follows:

OMB Control Number: 3060–0065.

OMB Approval Date: December 17, 2015.

OMB Expiration Date: December 31, 2018.

Title: Radio Experimentation and Market Trials—Streamlining Rules.

Form Number: FCC Form 442.

Respondents: Business or other for-profit entities; not-for-profit institutions, and individuals or household.

Number of Respondents and Responses: 495 respondents; 560 responses.

Estimated Time per Response: 4 hours.

Frequency of Response: On-occasion reporting requirements; recordkeeping requirements; and third party disclosure.

Obligation to Respond: Required to obtain or retain benefits. The statutory authority for this information collection is contained in sections 47 U.S.C. Sections 4, 302, 303, 306, and 307 of the Communications Act of 1934, as amended.

Total Annual Burden: 3,049 hours.

Total Annual Cost: $41,600.

Nature and Extent of Confidentiality: There is no need for confidentiality, except for personally identifiable information individuals may submit, which is covered by a system of records, FCC/OET–1, ''Experimental Radio Station License Files,'' 71 FR 17234, April 6, 2006.

Privacy Act: No impact(s).

Needs and Uses: On January 31, 2013, the Commission adopted a Report and Order, in ET Docket No. 10–236 and 06–155; FCC 13–15, which updates part 5 of the CFR—''Experimental Radio Service'' (ERS). The Commission's recent Report and Order revises and streamlines rules for Experimental licenses. The new rules provide additional license categories to potential licensees. The new license categories are: (1) Program Experimental Radio License; (2) Medical Testing Experimental Radio License; and (3) Compliance Testing Experimental Radio License, including testing of radio frequency equipment in an Open Area Test Site.

Federal Communications Commission.

Sheryl Todd,

Deputy Secretary.

[FR Doc. 2015–33250 Filed 1–13–16; 8:45 am]

BILLING CODE 6712–01–P

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

[Docket No. FWS–R5–ES–2011–0024; 4500030113]

RIN 1018–AY98

Endangered and Threatened Wildlife and Plants; 4(d) Rule for the Northern Long-Eared Bat

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: We, the U.S. Fish and Wildlife Service (Service), finalize a rule under authority of section 4(d) of the Endangered Species Act of 1973 (Act), as amended, that provides measures that are necessary and advisable to provide for the conservation of the northern long-eared bat (*Myotis septentrionalis*), a bat species that occurs in 37 States, the District of Columbia, and 13 Canadian Provinces.

DATES: This rule is effective February 16, 2016.

ADDRESSES: This final 4(d) rule, the final environmental assessment, biological opinion, and list of references are available on the Internet at *http://www.regulations.gov* under Docket No. FWS–R5–ES–2011–0024 and at *http://www.fws.gov/midwest/Endangered.* Comments and materials we received, as well as supporting documentation we used in preparing this final 4(d) rule, are available for public inspection at *http://www.regulations.gov,* and by appointment, during normal business hours at: U.S. Fish and Wildlife Service, Twin Cities Ecological Services Field Office, 4101 American Blvd. East, Bloomington, MN 55425; telephone (612) 725–3548, ext. 2201; or facsimile (612) 725–3609.

FOR FURTHER INFORMATION CONTACT: Peter Fasbender, Field Supervisor, U.S. Fish and Wildlife Service, Twin Cities Ecological Services Field Office, 4101 American Blvd. East, Bloomington, MN 55425; telephone (612) 725–3548, ext. 2210; or facsimile (612) 725–3609. Persons who use a telecommunications device for the deaf (TDD) may call the Federal Information Relay Service (FIRS) at 800–877–8339.

SUPPLEMENTARY INFORMATION:

Executive Summary

The need for the regulatory action and how the action will meet that need: Consistent with section 4(d) of the Act, this final 4(d) rule provides measures that are tailored to our current understanding of the conservation needs of the northern long-eared bat.

On April 2, 2015, we published a document that is both a final rule to list the northern long-eared bat as a threatened species and an an interim 4(d) rule to provide measures that are necessary and advisable to provide for the conservation of the northern long-eared bat. At that time, we opened a 90-day public comment period on the interim rule, and we committed to publish a final 4(d) rule by December 31, 2015, and to complete review pursuant to the National Environmental Policy Act (NEPA). Previously, on January 16, 2015, we published a proposed 4(d) rule with a 60-day public comment period. Therefore,we have had two comment periods totaling 150 days on two versions of the 4(d) rule.

Statement of legal authority for the regulatory action: Under section 4(d) of the Act, the Secretary of the Interior has discretion to issue such regulations she deems necessary and advisable to provide for the conservation of the species. The Secretary also has the discretion to prohibit by regulation, with respect to a threatened species, any act prohibited by section 9(a)(1) of the Act.

Summary of the major provisions of the regulatory action: This final species-specific 4(d) rule prohibits purposeful take of northern long-eared bats throughout the species' range, except in instances of removal of northern long-eared bats from human structures, defense of human life (including public health monitoring), removal of hazardous trees for protection of human life and property, and authorized capture and handling of northern long-eared bats by individuals permitted to conduct these same activities for other bats until May 3, 2016. After May 3, 2016, individuals who wish to capture and handle northern long-eared bats for recovery purposes will need a permit pursuant to section 10(a)(1)(A) of the Act.

Incidental take resulting from otherwise lawful activities will not be prohibited in areas not yet affected by white-nose syndrome (WNS). WNS is a fungal disease affecting many hibernating U.S. bat species. Ninety- to one-hundred-percent mortality has been seen in bats affected by the disease in the eastern United States.

Take of northern long-eared bats in their hibernacula (which includes caves, mines, and other locations where bats hibernate in winter) is prohibited in areas affected by WNS, unless permitted under section 10(a)(1)(A) of the Act. Take of northern long-eared bats inside of hibernacula may include disturbing or disrupting hibernating individuals when they are present as well as the physical or other alteration of the hibernaculum's entrance or environment when bats are not present if the result of the activity will impair essential behavioral patterns, including sheltering northern long-eared bats.

For northern long-eared bats outside of hibernacula, we have established separate prohibitions from take for activities involving tree removal and activities that do not involve tree removal. Incidental take of northern long-eared bats outside of hibernacula resulting from activities other than tree removal is not prohibited. Incidental take resulting from tree removal is prohibited if it: (1) Occurs within a 0.25 mile (0.4 kilometer) radius of known northern long-eared bat hibernacula; or (2) cuts or destroys known occupied maternity roost trees, or any other trees within a 150-foot (45-meter) radius from the known maternity tree during the pup season (June 1 through July 31). Incidental take of northern long-eared bats as a result of the removal of hazardous trees for the protection of human life and property is also not prohibited.

Peer review and public comment: We sought comments on our proposed 4(d) rule from independent specialists to ensure that this rule is based on scientifically sound data, assumptions, and analyses. We also considered all comments and information we received during the comment periods on the proposed and interim 4(d) rules.

Previous Federal Actions

Please refer to the proposed (78 FR 61046; October 2, 2013) and final (80 FR17974; April 2, 2015) listing rules for the northern long-eared bat for a detailed description of previous Federal actions concerning this species. On January 16, 2015, we published a proposed 4(d) rule (80 FR 2371) for the northern long-eared bat and on April 2, 2015, we published an interim 4(d) rule (80 FR 17974) for this species.

Background

The northern long-eared bat is a wide-ranging species that is found in a variety of forested habitats in summer and hibernates in caves, mines, and other locations in winter. WNS is the main threat to this species and has caused a precipitous decline in bat numbers (in many cases, 90–100 percent) where the disease has occurred. Declines in the numbers of northern long-eared bats are expected to continue as WNS extends across the species' range. For more information on the northern long-eared bat, its habitat, and WNS, please refer to the October 2, 2013, proposed listing (78 FR 61046) and the April 2, 2015, final listing (80 FR 17974) rules.

The Act (16 U.S.C. 1531 *et seq.*) does not specify particular prohibitions, or exceptions to those prohibitions, for threatened species. Instead, under section 4(d) of the Act, the Secretary of the Interior has the discretion to issue such regulations as she deems necessary and advisable to provide for the conservation of such species. The Secretary also has the discretion to prohibit by regulation, with respect to any threatened wildlife species, any act prohibited under section 9(a)(1) of the Act with respect to endangered species. Exercising this discretion under section 4(d) of the Act, the Service developed general prohibitions (50 CFR 17.31) and exceptions to those prohibitions (50 CFR 17.32) under the Act that apply to most threatened wildlife species.

In addition, for threatened species, under the authority of section 4(d) of the Act, the Service may develop prohibitions and exceptions that are tailored to the specific conservation needs of the species. In such cases, some of the prohibitions and authorizations under 50 CFR 17.31 and 17.32 may be appropriate for the species and be incorporated into a separate, species-specific, rule under section 4(d) of the Act. These rules will also include provisions that are tailored to the specific conservation needs of the threatened species and may be more or less restrictive than the general provisions at 50 CFR 17.31.

Definitions

This final rule uses several definitions and provisions contained in the Act and its implementing regulations.

The Act and its implementing regulations (50 CFR part 17) define take as harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct.

The term "harass" (50 CFR 17.3) means an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering.

The term "harm" (50 CFR 17.3) means an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering.

"Purposeful take" includes the capture and handling of individual bats. Take in this manner includes both capture and handling to remove bats from human structures and take that is for research purposes (*e.g.,* attaching a radiotracking device). Other purposeful take would include intentional removal of bats from hibernacula or the intentional killing or harassing of bats under any circumstance.

"Human structures" are defined as houses, garages, barns, sheds, and other buildings designed for human entry.

"Incidental take" is defined at 50 CFR 17.3 as any taking otherwise prohibited, if such taking is incidental to, and not the purpose of, an otherwise lawful activity. Examples of incidental take (or non-purposeful take as it is sometimes referred to in this rule) include land-management actions, such as implementation of forestry practices, where bats may be harmed, harassed, or killed as a result of those otherwise lawful actions. The actions contemplated in this rule include a wide range of actions for purposes such as right-of-way development and maintenance, forestry, land use for development unrelated to wildlife management, management of lands as habitats other than bat habitat (*e.g.,* prairie), energy production and transmission, and other activities.

Incidental take within the context of this rule is regulated in distinct and separate manners relative to the geographic location of the activity in question. For the purposes of this rule, we have developed a map associated with the occurrence and spread of WNS. This map will be updated by the first of each month as the disease spreads throughout the range of the species and posted at *http://www.fws.gov/midwest/Endangered*.

"Known hibernacula" are defined as locations where northern long-eared bats have been detected during hibernation or at the entrance during fall swarming or spring emergence.

"Known, occupied maternity roost trees" are defined as trees that have had female northern long-eared bats or juvenile bats tracked to them or the presence of females or juveniles is known as a result of other methods.

"Tree removal" is defined as cutting down, harvesting, destroying, trimming, or manipulating in any other way the trees, saplings, snags, or any other form of woody vegetation likely to be used by northern long-eared bats.

WNS Zone

The WNS zone, as mapped, provides the boundary for the distinction of implementation of this rule. To estimate the area impacted by WNS, we have used data on the presence of the fungus causing the disease, called *Pseudogymnoascus destructans,* or *Pd,* or evidence of the presence of the disease (WNS) in the bats within a hibernaculum. Our final listing determination provides additional information concerning *Pd* and WNS (80 FR 17993; April 2, 2015). Confirmed evidence of infection at a location within a county is mapped as a positive detection for the entire county. In addition, we have added a 150-mile (241-kilometer (km)) buffer to the *Pd*-positive county line to account for the spread of the fungus from one year to the next. In instances where the 150-mile (241-km) buffer line bisects a county, the entire county is included in the WNS zone.

Over the past 5 years, an average of 96 percent of the new *Pd* or WNS counties in any single year were within 150 miles (241 km) of a county that was *Pd*- or WNS-positive in a prior year (Service 2015, unpublished data). *Pd* is generally present for a year or two before symptoms of WNS appear and mortality of bats begins to occur. Given the relatively short amount of time between detection and population-level impacts, it is important that we protect those buffer areas and the bats within them with the same regulations as those in known WNS positive counties. Therefore, the positive counties, plus a buffer around them, are the basis for the WNS zone map.

Summary Comparison of the Interim 4(d) Rule and This Final Rule

Based on information we received in comment periods on the proposed and interim 4(d) rules (see Summary of Comments and Recommendations below), we revised the provisions of the interim 4(d) rule to better reflect the disproportionate effect that the disease, WNS, has had and will continue to have, we believe, on northern long-eared bat populations.

In the interim rule, we used the term "white-nose syndrome buffer zone" to identify "the portion of the range of the northern long-eared bat" within 150 miles (241 km) of the boundaries of U.S. counties or Canadian districts where the fungus *Pseudogymnoascus destructans (Pd)* or WNS had been detected. For purposes of clarification, in this final rule, we have changed the term "white-nose syndrome buffer zone" to "white-nose syndrome zone" or "WNS zone." And we state that the "WNS zone" is "the set of counties within the range of the northern long-eared bat" within 150 miles (241 km) of the boundaries of U.S. counties or Canadian districts where *Pd* or WNS had been detected.

The interim 4(d) rule generally applies the prohibitions of 50 CFR 17.31 and 17.32 to the northern long-eared bat, which means that the interim rule, among other things, prohibits the purposeful take of northern long-eared bats throughout the species' range, but the interim rule includes exceptions to the purposeful take prohibition. The exceptions for purposeful take are: (1) In instances of removal of northern long-eared bats from human structures (if actions comply with all applicable State regulations); and (2) for authorized capture, handling, and related activities of northern long-eared bats by individuals permitted to conduct these same activities for other bat species until May 3, 2016. Under the interim rule, incidental take is not prohibited outside the WNS zone if the incidental take results from otherwise lawful activities. Inside the WNS zone, there are exceptions for incidental take for the following activities, subject to certain conditions: Implementation of forest management; maintenance and expansion of existing rights-of-way and transmission corridors; prairie management; minimal tree removal; and removal of hazardous trees for the protection of human life and property.

This final 4(d) rule does not generally apply the prohibitions of 50 CFR 17.31 to the northern long-eared bat. This rule continues to prohibit purposeful take of northern long-eared bats throughout the species' range, except in certain cases, including instances of removal of northern long-eared bats from human structures and for authorized capture, handling, and related activities of northern long-eared bats by individuals permitted to conduct these same activities for other bat species until May 3, 2016. After May 3, 2016, a permit pursuant to section 10(a)(1)(A) of the Act is required for the capture and handling of northern long-eared bats. Under this rule, incidental take is still not prohibited outside the WNS zone.

We have revised the interim rule's language concerning incidental take inside the WNS zone. Under this final rule, within the WNS zone, incidental take is prohibited only if: (1) Actions result in the incidental take of northern long-eared bats in hibernacula; (2) actions result in the incidental take of northern long-eared bats by altering a known hibernaculum's entrance or interior environment if the alteration impairs an essential behavioral pattern, including sheltering northern long-eared bats; or (3) tree-removal activities result in the incidental take of northern long-eared bats when the activity either occurs within 0.25 mile (0.4 kilometer) of a known hibernaculum, or cuts or destroys known occupied maternity roost trees, or any other trees within a 150-foot (45-meter) radius from the maternity roost tree, during the pup season (June 1 through July 31). Take of northern long-eared bats in their hibernacula may include disturbing or disrupting hibernating individuals when they are in the hibernacula. Take of northern long-eared bat also includes the physical or other alteration of the hibernaculum's entrance or environment when bats are not present if the result of the activity will impair essential behavioral patterns, including sheltering northern long-eared bats. Any take resulting from otherwise lawful activities outside known hibernacula, other than tree removal, is not prohibited, as long as it does not change the bat's access to or quality of a known hibernaculum for the species. This final rule makes these revisions because, in areas impacted by WNS, the most important conservation actions for the northern long-eared bat are to protect bats in hibernacula and maternity roost trees, and to continue to monitor populations in summer habitat (*e.g.,* identify where the species continues to survive after the detection of *Pd* or WNS and determine the factors influencing its resilience), while developing methods to abate WNS as quickly as possible.

Under this rule, we individually set forth prohibitions on possession and other acts with unlawfully taken northern long-eared bats, and on import and export of northern long-eared bats. These prohibitions were included in the interim 4(d) through the general application of the prohibitions of 50 CFR 17.31 to the northern long-eared bat. Under this rule, take of the northern long-eared bat is also not prohibited for the following: Removal of hazardous trees for protection of human life and property; take in defense of life; and take by an employee or agent of the Service, of the National Marine Fisheries Service, or of a State conservation agency that is operating a conservation program pursuant to the terms of a cooperative agreement with the Service. Regarding these three exceptions, take in defense of life was not included in the interim 4(d) rule, but the other two exceptions were, either through the general application of 50 CFR 17.31 or through a specific exception included in the interim 4(d) rule.

Provisions of the 4(d) Rule for the Northern Long-Eared Bat

For a threatened species, the Act does not specify prohibitions, or exceptions to those prohibitions, relative to take of the species. Instead, under Section 4(d) of the Act, the Secretary has discretion to issue regulations deemed to be necessary and advisable for the conservation of a threatened species. By regulation, the Secretary has determined that take prohibitions for endangered species are also applicable to threatened species unless a special rule is issued under section 4(d) for a particular threatened species. Under this 4(d) rule, we have applied several of the prohibitions specified in the Act for endangered species and the provisions of 50 CFR 17.32 (permit regulations) to the northern long-eared bat as described below.

For this 4(d) rule, the Service has completed a biological opinion under Section 7 of the Act on our action of finalizing this rule. In addition, the biological opinion provides for streamlined consultation for all federal agency actions that may affect the northern long-eared bat; therefore, the scope of the biological opinion included the finalization and implementation of the 4(d) rule. The biological opinion resulted in a non-jeopardy determination. Provided Federal action agencies follow the criteria outlined in this rule and implement the streamlined consultation process outlined in the biological opinion, their section 7 consultation requirements will be met. If unable to follow these criteria, standard section 7 procedures will apply.

Exceptions to the Purposeful Take Prohibition

We have exempted the purposeful take of northern long-eared bats related to the protection of human health and safety. A very small percentage of bats may be infected with rabies or other diseases that can be transmissible to humans. When there is the possibility that a person has been exposed to a diseased bat, it is important that they coordinate with medical professionals (*e.g.,* doctor, local health department) to determine the appropriate response. When warranted to protect human health and safety, we have exempted from the take prohibition of northern long-eared bats in defense of one's own life or the lives of others, including for public health monitoring purposes (*i.e.,* collecting a bat after human exposure and submitting for disease testing).

We have also exempted the purposeful take of northern long-eared bats related to removing the species from human structures, but only if the actions comply with all applicable State regulations. Northern long-eared bats have occasionally been documented roosting in human-made structures, such as houses, barns, pavilions, sheds, cabins, and bat houses (Mumford and Cope 1964, p. 480; Barbour and Davis 1969, p. 77; Cope and Humphrey 1972, p. 9; Amelon and Burhans 2006, p. 72; Whitaker and Mumford 2009, p. 209; Timpone et al. 2010, p. 119; Joe Kath 2013, pers. comm.). We conclude that the overall impact of bat removal from human structures is not expected to adversely affect conservation and recovery efforts for the species. In addition, we provide the following recommendations:

- Minimize use of pesticides (*e.g.,* rodenticides) and avoid use of sticky traps as part of bat evictions/exclusions.
- Conduct exclusions during spring or fall unless there is a perceived public health concern from bats present during summer and/or winter.
- Contact a nuisance wildlife specialist for humane exclusion techniques.

We have exempted the purposeful take that results from actions relating to capture, handling, and related activities for northern long-eared bats by individuals permitted to conduct these same activities for other species of bats until May 3, 2016. Under the interim rule, for a period of 1 year from the interim rule's effective date (May 3, 2016), we had exempted the purposeful take that is caused by the authorized capture, handling, and related activities (*e.g.,* attachment of radio transmitters for tracking) of northern long-eared bats by individuals permitted to conduct these same activities for other bats. We have continued the exemption through the expiration date established by the interim rule. After May 3, 2016, a permit pursuant to section 10(a)(1)(A) of the Act is required for the capture and handling of northern long-eared bats,except that associated with bat removal from human structures. We determined that it was important to regulate the intentional capture and handling of northern long-eared bats through the Act's scientific permit process to help ensure that the surveyor's qualifications and methods used are adequate to protect individual bats and provide reliable survey results.

Incidental Take Outside of the WNS Zone Not Prohibited

Incidental take in areas that have not yet been impacted by WNS (*i.e.,* in areas outside the WNS zone) is not prohibited by this final rule. We believe the level of take associated with on-going land management and development actions, including all actions that may incidentally take the northern long-eared bat, do not individually or cumulatively affect healthy bat populations. As noted in our decision to list the northern long-eared bat as a threatened species, WNS is the primary cause of the species' decline, and we would not have listed the northern long-eared bat if not for the impact of WNS. In addition, we conclude that regulating incidental take in areas not affected by WNS is not expected to change the rate at which WNS progresses across the range of the species. In other words, regulating incidental take outside the WNS zone will not influence the future impact of the disease throughout the species' range or the status of the species. For these reasons, we have concluded that the prohibition of incidental take outside of the WNS zone is not necessary and advisable for the protection and recovery of the species. Incidental take, therefore, is not prohibited outside of the WNS zone.

Prohibitions and Exemptions Related to Incidental Take Inside the WNS Zone

Our approach to designing the regulatory provisions for the northern long-eared bat inside the WNS zone reflects the significant role WNS plays as the central threat affecting the species. For other threatened species, habitat loss or other limiting factors usually contribute to the decline of a species. In these situations, regulations are needed to address either the habitat loss or the other limiting factors.

The northern long-eared bat is not habitat-limited and has demonstrated a great deal of plasticity within its environment (*e.g.,* living in highly fragmented forest habitats to contiguous forest blocks from the southern United States to Canada's Yukon Territory) in the absence of WNS. For the northern long-eared bat, land management and development actions that have been ongoing for centuries (*e.g.,* forest management, forest conversion) have not been shown to have significant negative impacts to northern long-eared bat populations.

As WNS continues to move across the range of the species, northern long-eared bat populations have declined and will continue to decline. Declines in northern long-eared bat populations in WNS-positive regions have been significant, and northern long-eared bats are now relatively rare on those landscapes. As populations decline as a result of WNS, the chances of any particular activity affecting northern long-eared bats becomes more remote. Therefore, in the WNS zone, we focused the regulatory provisions on sensitive life stages at known, occupied maternity roost trees and hibernacula.

We developed regulations that provide some level of protection to the species where it persists in the face of WNS. However, we have provided flexibility so that the regulated public will seek to conserve the species and foster its recovery at sites where it has been lost should tools to address WNS become available or where the species shows signs of resilience. Further, because we believe recovery of this species will require many partnerships across the species' range, minimizing regulatory impacts on activities inconsequential to northern long-eared bat populations provides an important step in building partnerships for the species' recovery.

The northern long-eared bat is a forest-dependent species, typically roosting in trees. In establishing regulations that are necessary and advisable for the conservation of the species, we have tailored species-specific regulatory provisions toward potential impacts to trees. For the incidental take of bats outside of hibernacula, we have specifically established two sets of provisions: the first set applies to activities that do not involve tree removal and the second applies to activities that do involve tree removal. By tree removal, we mean cutting down, harvesting, destroying, trimming, or manipulating in any other way the trees, saplings, snags, or any other form of woody vegetation that is likely to be used by the northern long-eared bat.

In this final 4(d) rule, we have limited the prohibition of incidental take of northern long-eared bats to specific circumstances. This does not mean that all activities that could result in the incidental take of the northern long-eared bat will do so. The relative exposure of the species and the species response to a potential stressor are critical considerations in evaluating the potential for incidental take to occur. For example, under the discussion of tree removal, below, we describe what is prohibited by the final 4(d) rule in the WNS zone and provide examples of how other activities could be implemented in a way that avoids the potential for incidental take.

Hibernacula

Northern long-eared bats predominantly overwinter in hibernacula that include caves and abandoned mines. For additional details about the characteristics of the hibernacula selected by northern long-eared bats, see the final listing determination (80 FR 17974; April 2, 2015). Northern long-eared bats have shown a high degree of philopatry (using the same site over multiple years) for a hibernaculum (Pearson 1962, p. 30), although they may not return to the same hibernaculum in successive seasons (Caceres and Barclay 2000, p. 2).

Hibernacula are so significant to the northern long-eared bat that they are considered a primary driver in the species distribution (*e.g.,* Kurta 1982, p. 302). Northern long-eared bats are documented in hibernacula in 29 of the 37 states in the species' range. Other States within the species' range have no known hibernacula, which may reflect that no suitable hibernacula are present, a limited survey effort, or the northern long-eared bat's use of sites not previously identified as suitable.

In general, bats select hibernacula because they have characteristics that allow the bats to meet specific life-cycle requirements. Factors influencing a hibernaculum's suitability include its physical structure (*e.g.,* openings, interior space, depth), air circulation, temperature profile, and location relative to foraging sites (Tuttle and Stevenson 1978, pp. 108–121).

Overwinter survival can be a particularly challenging period in the northern long-eared bat's life cycle. Hibernating bats appear to balance their physical condition (*e.g.,* fat reserves upon entering hibernation), hibernacula characteristics (*e.g.,* temperature variation, humidity), social resources (*e.g.,* roosting singly or in groups), and metabolic condition (*i.e.,* degree of torpor, which is the state of mental or physical inactivity) to meet overwinter survival needs. The overwinter physiological needs of the species include maintaining body temperature above freezing, minimizing water loss, meeting energetic needs until prey again become available, and responding to disturbance or disease. Because of this complex interplay of hibernacula characteristics and bat physiology, changes to hibernacula can significantly impact their suitability as well as the survival of any hibernating bats.

In general, northern long-eared bats arrive at hibernacula in August or September, enter hibernation in October and November, and emerge from the hibernacula in March or April (Caire et al. 1979, p. 405; Whitaker and Hamilton 1998, p. 100; Amelon and Burhans 2006, p. 72). However, hibernation may begin as early as August (Whitaker and Rissler 1992b, p. 56). Northern long-eared bats have been observed moving among hibernacula throughout the winter (Griffin 1940a, p. 185; Whitaker and Rissler 1992a, p. 131; Caceres and Barclay 2000, pp. 2–3). Whitaker and Mumford (2009, p. 210) found that this species flies in and out of some mines and caves in southern Indiana throughout the winter.

Human disturbance of hibernating bats has long been considered a threat to cave-hibernating bat species like the northern long-eared bat. Modifications to bat hibernacula can affect the microclimate (*e.g.,* temperature, humidity) of the subterranean habitat, and thus the ability of the cave or mine to support hibernating bats, including the northern long-eared bat. Anthropogenic modifications to cave and mine entrances may not only alter flight characteristics and access (Spanjer and Fenton 2005, p. 1110), but may change airflow and alter internal microclimates of the caves and mines, eliminating their utility as hibernacula (Service 2007, p. 71). For example, Richter et al. (1993, p. 409) attributed the decline in the number of Indiana bats at Wyandotte Cave, Indiana (which harbors one of the largest known population of hibernating Indiana bats (*Myotis sodalis*)), to an increase in the cave's temperature resulting from restricted airflow caused by a stone wall erected at the cave's entrance. In addition to the direct access modifications to caves discussed above, debris buildup at entrances or on cave gates can also significantly modify the cave or mine site characteristics by restricting airflow and the course of natural water flow. Water-flow restriction could lead to flooding, thus drowning hibernating bats (Amelon and Burhans 2006, p. 72). Thomas (1995, p. 942) used infrared detectors to measure flight activity in hibernating northern long-eared bats and little brown bats in response to the presence of a human observer. Flight activity significantly increased with the presence of an observer, beginning within 30 minutes of the visit, peaking 1.0 to 7.5 hours later, and remaining significantly above baseline level for 2.5 to 8.5 hours. These results suggest that hibernating bats are sensitive to non-tactile stimuli and arouse and fly following human visits. Boyles and Brack's (2009) model predicted that the survival rate of hibernating little brown bats drops from 96 percent to 73 percent with human visitations to hibernacula. Prior to the outbreak of WNS, Amelon and Burhans (2006, p. 73) indicated that ''the widespread recreational use of caves and indirect or direct disturbance by humans during the hibernation period pose the greatest known threat to [the northern long-eared bat].''

Hibernacula and surrounding forest habitats play important roles in the life cycle of the northern long-eared bat beyond the time when the bats are overwintering. In both the early spring and fall, the hibernacula and surrounding forested habitats are the focus of bat activity in two separate periods referred to as ''spring staging'' and ''fall swarming.''

During the spring staging, bats begin to gradually emerge from hibernation, exit the hibernacula to feed, but re-enter the same or alternative hibernacula to resume daily bouts of torpor (Whitaker and Hamilton 1998, p. 100). The staging period for the northern long-eared bat is likely short in duration (Whitaker and Hamilton 1998, p. 100; Caire et al. 1979, p. 405). In Missouri, Caire et al. (1979, p. 405) found that northern long-eared bats moved into the staging period in mid-March through early May. In Michigan, Kurta et al. (1997, p. 478) determined that by early May, two-thirds of the *Myotis* species, including the northern long-eared bat, had dispersed to summer habitat.

Beginning in mid to late summer, after their young have gained some level of independence, northern long-eared bats exhibit a behavior near hibernacula referred to as swarming. Both male and female northern long-eared bats are present at swarming sites (often with other species of bats). During this period, heightened activity and congregation of transient bats around caves and mines is observed, followed later by increased sexual activity and bouts of torpor prior to winter hibernation (Fenton 1969, p. 601; Parsons et al. 2003, pp. 63–64; Davis and Hitchcock 1965, pp. 304–306). The purposes of swarming behavior may include introduction of juveniles to potential hibernacula, copulation, and stopping over sites on migratory pathways between summer and winter regions (Kurta et al. 1997, p. 479; Parsons et al. 2003, p. 64; Lowe 2012, p. 51; Randall and Broders 2014, pp. 109–110). The swarming season for some species of the genus *Myotis* begins shortly after females and young depart maternity colonies (Fenton 1969, p. 601). For the northern long-eared bat, the swarming period may occur between July and early October, depending on latitude within the species' range (Fenton 1969, p. 598; Kurta et al. 1997, p. 479; Lowe 2012, p. 86; Hall and Brenner 1968, p. 780; Caire et al. 1979, p. 405). The northern long-eared bat may investigate several cave or mine openings during the transient portion of the swarming period, and some individuals may use these areas as temporary daytime roosts or may roost in forest habitat adjacent these sites (Kurta et al. 1997, pp. 479, 483; Lowe 2012, p. 51). Little is known about northern long-eared bat roost selection outside of caves and mines during the swarming period (Lowe 2012, p. 6).

Based on the importance of hibernacula to northern long-eared bats, take is prohibited in and around the hibernacula within the WNS zone, including activities that may alter the hibernacula at any time of the year. Further, we have determined that when the conservation measures for the northern long-eared bat included in this final 4(d) rule are applied to areas within 0.25 mile (0.4 km) of the hibernacula, the potential for negative impacts to individuals is significantly reduced.

Activities Not Involving Tree Removal Are Not Prohibited

Under this final 4(d) rule, activities within the WNS zone not involving tree removal are not prohibited provided they do not result in the incidental take of northern long eared bats in hibernacula or otherwise impair essential behavioral patterns at known hibernacula. In our final listing determination (80 FR 17974; April 2, 2015), we identified a number of activities not involving tree removal that may have direct or indirect effects on northern long-eared bats. These activities have the potential to cause the incidental take of northern long-eared bats and include activities such as the operation of utility-scale wind-energy turbines, application of pesticides, and prescribed fire (this is not an exhaustive list; it is merely representative of activities that may result in take of northern long-eared bats).

At the time of our listing determination and the interim 4(d) rule (80 FR 17974; April 2, 2015), we stated that we had no compelling evidence that these activities would have significant effects on the northern long-eared bat when considered alone. However, we thought these factors may have a cumulative effect on this species when considered in concert with WNS. After additional consideration and our review of public comments received on the proposed and interim 4(d) rules, we did not find compelling evidence that regulating these potential cumulative effects would result in significant impacts at the species level. Effects to relatively small numbers of individuals are not anticipated to impair conservation efforts or the recovery potential of the species.

Wind-Energy Facilities

Wind-energy facilities are found scattered throughout the range of the northern long-eared bat, and many new facilities are anticipated to be constructed over the next 15 years (United States Department of Energy 2008, unpaginated). We reviewed post-construction mortality monitoring studies conducted at various times from 1998 through 2014 at 81 unique operating wind-energy facilities in the range of the northern long-eared bat in the United States and Canada (Service 2015, unpublished data). In these studies, 43 northern long-eared bat mortalities were documented at 19 of the sites. The northern long-eared bat fatalities comprised less than 1 percent of all documented bat mortalities. In most cases, the level of effort for most post-construction monitoring studies is not sufficient to confidently exclude the possibility that infrequent fatalities are being missed, but finding none or only small numbers over many sites and years can suggest the order of what may be missed. Thus while sustained mortality at particular facilities could potentially cause declines in local populations of the northern long-eared bat, if that is in fact occurring, it does not appear to be wide-spread at least when compared to other bat species which are nearly always found in fatality monitoring at wind facilities. At those sites with a northern long-eared bat fatality where multiple years of monitoring data were also available for review (n = 12), fatalities of northern long-eared bats were only reported in multiple years at two of the sites and for the other 10 sites only a single fatality was reported over multiple years of monitoring. For example, one site reported one northern long-eared bat fatality in 2008, but none in 2009, 2010, or 2011. Further, the number of fatalities of northern long-eared bats found at any given site has been relatively small (*e.g.,* most often a single fatality was found, but in all cases no more than six), and typically most sites (62 out of 81) found no northern long-eared bat fatalities at all. There is a great deal of uncertainty related to extrapolating these numbers to generate an estimate of total northern long-eared bat mortality at wind-energy facilities due to variability in post-construction survey effort and methodology (Huso and Dalthorp 2014, pp. 546–547). Further, bat mortality can vary between years and between sites, and detected carcasses are only a small percentage of total bat mortalities. However, even with those limitations, northern long-eared bats were rarely detected as mortalities, even when they were known to be common on the landscape around the wind-energy facility.

We recognize that several wind energy facilities have completed, or are currently working to complete, habitat conservation plans (HCPs; permit pursuant to section 10(a)(1)(B) of the Act) for other listed bat species where the number of fatalities reported is also very low. When the take of an endangered species is reasonably certain to occur, we recommend that a project proponent secure incidental take coverage pursuant to section 10 of the Act. Over the operational life of a wind energy facility (typically anticipated to be at least 20 to 30 years), the take of listed species may be reasonably certain to occur, even if the level of mortalities annually is anticipated to be quite low. However, this does not mean that prohibiting that incidental take in the case of a threatened species is necessary and advisable for the conservation of such a species. For the northern long-eared bat, we do not anticipate that the fatalities that will be caused by wind energy would meaningfully change the species' status in the foreseeable future.

In addition, the wind industry has recently published best management practices establishing voluntary operating protocols, which they expect "to reduce impacts to bats from operating wind turbines by as much as 30 percent" (AWEA 2015, unpaginated). Given the large numbers of other bat species impacted by wind energy (Hein et al. 2013, p. 12) and the economic importance of bats in controlling agricultural or forest pest species (Boyles et al. 2011, pp. 41–42; Maine and Boyles, 2015, p. 12442), we anticipate that these new standards will be adopted by the wind-energy sector and ultimately required by wind-energy-siting regulators at State and local levels. We recommend that wind facilities adopt these operating protocols.

Our primary reason for not establishing regulatory criteria for wind-energy facilities is that the best available information does not indicate significant impacts to northern long-eared bats from such operations. We conclude that there may be adverse effects posed by wind-energy development to individual northern long-eared bats; however, there is no evidence suggesting that effects from wind-energy development has led to significant declines in this species, nor is there evidence that regulating the incidental take that is occurring would meaningfully change the conservation or recovery potential of the species in the face of WNS. Furthermore, with the adoption by wind-energy facilities of the new voluntary standards, risk to all bats, including the northern long-eared bat, should be further reduced.

Environmental Contaminants

Environmental contaminants, in particular insecticides, pesticides, and inorganic contaminants, such as mercury and lead, may also have detrimental effects on individual northern long-eared bats. However, across the wide-range of the species, it is unclear whether environmental contaminants, regardless of the source (*e.g.,* pesticide applications, industrial waste-water), would be expected to cause population-level impacts to the northern long-eared bat either independently or in concert with WNS. Historically, the most intensively-studied contaminants in bats have been the organochlorine insecticides (OCs; O'Shea and Clark 2002, p. 238). During wide-spread use of OCs in the 1960s and 1970s, lethal pesticide poisoning was demonstrated in gray bats (*Myotis grisescens*), Mexican free-tailed bats (*Tadarida brasiliensis*), and Indiana bats (*Myotis sodalis*) (O'Shea and Clark 2002, p. 239, 242). Since the phasing out of OCs in the United States, the effects of chemical contaminants on bats have been less well studied (O'Shea and Johnston 2009, p. 501); however, a few recent studies have demonstrated the accumulation of potentially toxic elements and chemicals in North American bats. For instance, Yates et al. (2014, pp. 48–49) quantified total mercury (Hg) levels in 1,481 fur samples and 681 blood samples from 10 bat species captured across 8 northeastern U.S. States and detected the highest Hg levels in tri-colored bats (*Perimyotis subflavus*), little brown bats (*Myotis lucifugus*) and northern long-eared bats. More recently, Secord et al. (2015) analyzed tissue samples from 48 northeastern bat carcasses of four species, including northern long-eared bats, and detected accumulations of several contaminants of emerging concern (CECs), including most commonly polybrominated diphenyl ethers (PDBEs; 100 percent of samples), salicylic acid (81 percent), thiabendazole (50 percent), and caffeine (23 percent). Digoxigenin, ibuprofen, warfarin, penicillin V, testosterone, and N,N-diethyl-meta-toluamide (DEET) were also present in at least 15 percent of samples. Compounds with the highest concentrations were bisphenol A (397 ng/g), PDBE congeners 28, 47, 99, 100, 153, and 154 (83.5 ng/g), triclosan (71.3 n/g), caffeine (68.3 ng/g), salicylic acid (66.4 ng/g), warfarin (57.6 ng/g), sulfathiazole (55.8 ng/g), tris(1-chloro-2-propyl) phosphate (53.8 ng/g), and DEET (37.2 ng/g).

Although there is the potential for direct and indirect contaminant-related effects, mortality or other population-level impacts have not been reported for northern long-eared bats. Long-term sublethal effects of environmental contaminants on bats are largely unknown; however, environmentally relevant exposure levels of various contaminants have been shown to impair nervous system, endocrine, and reproductive functioning in other wildlife (Yates et al. 2014, p. 52; Köhler and Triebskorn 2013, p. 761; Colborn et al. 1993, p. 378). Moreover, bats' high metabolic rates, longevity, insectivorous diet, migration-hibernation patterns of fat deposition and depletion, and immune impairment during hibernation, along with potentially exacerbating effects of WNS, likely increase their risk of exposure to and accumulation of environmental toxins (Secord et al. 2015, p. 411, Yates et al. 2014, p. 46, Geluso et al. 1976, p. 184; Quarles 2013, p. 4, O'Shea and Clark 2002, p. 238). Following WNS-caused population declines in northeastern little brown bats, Kannan et al. (2010) investigated whether exposure to toxic contaminants could be a contributing factor in WNS-related mortality. Although high concentrations of polychlorinated biphenyls (PCBs), PBDEs, polybrominated biphenyls (PBBs), and chlordanes were found in the fat tissues of WNS-infected bats in New York, relative concentrations in bats from an uninfected population in Kentucky were also high (Kannan et al. 2010, p. 615). The authors concluded that the study's sample sizes were too small to accurately associate contaminant exposure with the effects of WNS in bats (Kannan et al. 2010, p. 618), but argued that additional research is needed. Despite the lack of knowledge on the effects of various contaminants on northern long-eared bats, we recognize the potential for direct and indirect consequences.

However, contaminant-related mortality has not been reported for northern long-eared bats. Additionally, Ingersoll (2013, p. 9) suggested it was unclear what other threats or combination of threats other than WNS (*e.g.,* changes to critical roosting or foraging habitat, collisions, effects from chemicals) may be responsible for recent bat declines.

Prescribed Fire

Prescribed fire is a useful forest-management tool. However, there are potential negative effects from prescribed burning, including direct mortality to the northern long-eared bat. Therefore, when using prescribed burning as a management tool, fire frequency, timing, location, and intensity all need to be considered to lower the risk of incidental take of bats. Carter et al. (2002, pp. 140–141) suggested that the risk of direct injury and mortality to southeastern forest-dwelling bats resulting from summer prescribed fire is generally low. During warm temperatures, bats are able to arouse from short-term torpor quickly. Northern long-eared bats use multiple roosts, switch roost trees often, and could likely use alternative roosts in unburned areas, should fire destroy the current roost. Non-volant pups are likely the most vulnerable to death and injury from fire. Although most eastern bat species are able to carry their young for some time after they are born (Davis 1970, pp. 187–189), the degree to which this behavior would allow females to relocate their young if fire threatens the nursery roost is unknown. The potential for death or injury resulting from prescribed burning depends largely on site-specific circumstances, *e.g.,* fire intensity near the maternity roost tree and the height above ground of pups in the maternity roost tree. Not all fires through maternity roosting areas will kill or injure all pups present.

Bats are known to take advantage of fire-killed snags and continue roosting in burned areas. Boyles and Aubrey (2006, pp. 111–112) found that, after years of fire suppression, initial burning created abundant snags, which evening bats (*Nycticeius humeralis*) used extensively for roosting. Johnson et al. (2010, pp. 115) found that after burning, male Indiana bats roosted primarily in fire-killed maples. In the Daniel Boone National Forest, Lacki et al. (2009, p. 5) radio-tracked adult female northern long-eared bats before and after prescribed fire, finding more roosts (74.3 percent) in burned habitats than in unburned habitats. Burning may create more suitable snags for roosting through exfoliation of bark (Johnson et al. 2009a, p. 240), mimicking trees in the appropriate decay stage for roosting bats. In addition to creating snags and live trees with roost features, prescribed fire may enhance the suitability of trees as roosts by reducing adjacent forest clutter. Perry et al. (2007, p. 162) found that five of six species, including northern long-eared bat, roosted disproportionately in stands that were thinned and burned 1 to 4 years prior but that still retained large overstory trees.

The use of prescribed fire, where warranted, will, in any given year, impact only a small proportion of the northern long-eared bat's range during the bats active period. In addition, there are substantial benefits of prescribed fire for maintaining forest ecosystems. For example, the U.S. Forest Service's Southern Region manages approximately 10.9 million acres (4.4 million hectares (ha)) of land, and the maximum estimate of acres where prescribed fire is employed annually during the active period of northern-long eared bats (April through October) was 320,577 acres (129,732 ha), which is less than 3 percent of the National Forest regional lands. Similarly, the Forest Service's Eastern Region manages 15 Forests in 13 States that include about 12.2 million acres (4.88 million ha), of which 11.3 million acres (4.52 million ha) are forested habitat. The U.S. Forest Service anticipates applying prescribed burning to 107,684 acres (43,073 ha) or about 1percent of the forested habitat across the eastern region annually. In addition, only 17,342 acres (6937 ha) (*i.e.,* 0.15 percent of the forested habitat) of prescribed burning annually is anticipated to occur during the non-volant period on the eastern forests.

Further, there are substantial benefits of prescribed fire for maintaining forest ecosystems, such as providing the successional and disturbance processes that renew the supply of suitable roost trees (Silvis et. al. 2012, pp.6–7), as well as helping to ensure a varied and reliable prey base (Dodd et. al. 2012, p. 269). There is no evidence that prescribed fire has led to population-level declines in this species nor is there evidence that regulating the incidental take that might occur would meaningfully change the conservation status or recovery potential of the species in the face of WNS.

Hazardous Tree Removal Is Not Prohibited

Under this final 4(d) rule, incidental take that is caused by removal and management of hazardous trees is not prohibited. The removal of these hazardous trees may be widely dispersed, but limited, and should result in very minimal incidental take of northern long-eared bats. We recommend, however, that removal of hazardous trees be done during the winter, wherever possible, when these trees will not be occupied by northern long-eared bats. We conclude that the overall impact of removing hazardous trees is not expected to adversely affect conservation and recovery efforts for the species.

Activities Involving Tree Removal

We issued the interim species-specific rule under section 4(d) of the Act in recognition that WNS is the primary threat to the species' continued existence. We further recognized that all other (non-WNS) threats cumulatively were not impacting the species at the population level. Therefore, we apply the take prohibitions only to activities that we have determined may impact the species in its most vulnerable life stages, allowing for management flexibility and a limited regulatory burden.

In this final 4(d) rule, we have determined that the conservation of the northern long-eared bat is best served by limiting the prohibitions to the most vulnerable life stages of the northern long-eared bat (*i.e.,* while in hibernacula or in maternity roost trees) within the WNS zone and to activities, tree removal in particular, that are most likely to affect the species. We have also revised some of the conservation measures. To further simplify the regulation, we have established separate prohibitions for activities involving tree removal and those that do not involve tree removal. Within the WNS zone incidental take outside of hibernacula that results from tree removal is only prohibited when it (1) Occurs within 0.25 miles (0.4 km) of known northern long-eared bat hibernacula; or (2) cuts or destroys known occupied maternity roost trees, or any other trees within a 150-foot (45-meter) radius from the known occupied maternity trees, during the pup season (June 1 through July 31).

Forest Management

Forest management maintains forest habitat on the landscape, and the impacts from management activities are, for the most part, temporary in nature. Forest management is the practical application of biological, physical, quantitative, managerial, economic, social, and policy principles to the regeneration, management, utilization, and conservation of forests to meet specified goals and objectives (Society of American Foresters, *http://dictionaryofforestry.org/dict/term/forest_* *management*). It includes a broad range of silvicultural practices and this discussion specifically addresses tree-removal practices (*e.g.,* timber harvest) associated with forest management. Timber harvesting includes a wide variety of practices from selected removal of individual trees to clearcutting. Impacts to northern long-eared bats from forest management would be expected to range from positive (*e.g.,* maintaining or increasing suitable roosting and foraging habitat within northern long-eared bat home ranges) to neutral (*e.g.,* minor amounts of forest removal, forest management in areas outside northern long-eared bat summer home ranges, forest management away from hibernacula) to negative (*e.g.,* death of adult females or pups or both resulting from the removal of maternity roost trees).

The best available data indicate that the northern long-eared bat shows a varied degree of sensitivity to timber-harvesting practices. For example, Menzel et al. (2002, p. 112) found northern long-eared bats roosting in intensively managed stands in West Virginia, indicating that there were sufficient suitable roosts (primarily snags) remaining for their use. At the same study site, Owen et al. (2002, p. 4) concluded that northern long-eared bats roosted in areas with abundant snags, and that in intensively managed forests in the central Appalachians, roost availability was not a limiting factor. Northern long-eared bats often chose black locust and black cherry as roost trees, which were quite abundant and often regenerate quickly after disturbance (*e.g.,* timber harvest). Similarly, Perry and Thill (2007, p. 222) tracked northern long-eared bats in central Arkansas and found roosts were located in eight forest classes with 89 percent occurring in three classes of mixed pine-hardwood forest. The three classes of mixed pine-hardwood forest that supported the majority of the roosts were partially harvested/thinned, unharvested (50 to 99 years old), and group-selection harvested (Perry and Thill 2007, pp. 223–224).

Certain levels of timber harvest may result in canopy openings, which could result in more rapid development of young bats. In central Arkansas, Perry and Thill (2007, pp. 223–224) found female bat roosts were more often located in areas with partial harvesting than males, with more male roosts (42 percent) in unharvested stands than female roosts (24 percent). They postulated that females roosted in relatively more open forest conditions because they may receive greater solar radiation, which may increase developmental rates of young or permit young bats a greater opportunity to conduct successful initial flights (Perry and Thill 2007, p. 224). Cryan et al. (2001, p. 49) found several reproductive and non-reproductive female northern long-eared bat roost areas in recently harvested (less than 5 years) stands in the Black Hills of South Dakota in which snags and small stems (diameter at breast height (dbh)) of 2 to 6 inches (5 to 15 centimeters) were the only trees left standing; however, the largest colony (n = 41) was found in a mature forest stand that had not been harvested in more than 50 years.

Forest size and continuity are also factors that define the quality of habitat for roost sites for northern long-eared bats. Lacki and Schwierjohann (2001, p. 487) stated that silvicultural practices could meet both male and female roosting requirements by maintaining large-diameter snags, while allowing for regeneration of forests. Henderson et al. (2008, p. 1825) also found that forest fragmentation affects northern long-eared bats at different scales based on sex; females require a larger unfragmented area with a large number of suitable roost trees to support a colony, whereas males are able to use smaller, more fragmented areas. Henderson and Broders (2008, pp. 959–960) examined how female northern long-eared bats use the forest-agricultural landscape on Prince Edward Island, Canada, and found that bats were limited in their mobility and activities are constrained when suitable forest is limited. However, they also found that bats in a relatively fragmented area used a building for colony roosting, which suggests an alternative for a colony to persist in an area with fewer available roost trees.

In addition to impacts on roost sites, we considered effects of forest-management practices on foraging and traveling behaviors of northern long-eared bats. In southeastern Missouri, the northern long-eared bat showed a preference for contiguous tracts of forest cover (rather than fragmented or wide open landscapes) for foraging or traveling, and different forest types interspersed on the landscape increased likelihood of occupancy (Yates and Muzika 2006, p. 1245). Similarly, in West Virginia, female northern long-eared bats spent most of their time foraging or travelling in intact forest, diameter-limit harvests (70 to 90 year-old stands with 30 to 40 percent of basal area removed in the past 10 years), and road corridors, with no use of deferment harvests (similar to clearcutting) (Owen et al. 2003, p. 355). When comparing use and availability of habitats, northern long-eared bats preferred diameter-limit harvests and forest roads. In Alberta, Canada, northern long-eared bats avoided the center of clearcuts and foraged more in intact forest than expected (Patriquin and Barclay 2003, p. 654). On Prince Edward Island, Canada, female northern long-eared bats preferred open areas less than forested areas, with foraging areas centered along forest-covered creeks (Henderson and Broders 2008, pp. 956–958). In mature forests in South Carolina, 10 of the 11 stands in which northern long-eared bats were detected were mature stands (Loeb and O'Keefe 2006, p. 1215). Within those mature stands, northern long-eared bats were more likely to be recorded at points with sparse or medium vegetation rather than points with dense vegetation, suggesting that some natural gaps within mature forests can provide good foraging habitat for northern long-eared bats (Loeb and O'Keefe 2006, pp. 1215–1217). However, in southwestern North Carolina, Loeb and O'Keefe (2011, p. 175) found that northern long-eared bats rarely used forest openings, but often used roads. Forest trails and roads may provide small gaps for foraging and cover from predators (Loeb and O'Keefe 2011, p. 175). In general, northern long-eared bats appear to prefer intact mixed-type forests with small gaps (*i.e.,* forest trails, small roads, or forest-covered creeks) in forest with sparse or medium vegetation for forage and travel rather than fragmented habitat or areas that have been clearcut.

Impacts to northern long-eared bats from forest management would be expected to vary depending on the timing of tree removal, location (within or outside northern long-eared bat home range), and extent of removal. While bats can flee during tree removal, removal of occupied roosts (during spring through fall) may result in direct injury or mortality to some percentage of northern long-eared bats. This percentage would be expected to be greater if flightless pups or inexperienced flying juveniles were also present. Forest management outside of northern long-eared bat summer home ranges or away from hibernacula would not be expected to affect the conservation of the species.

Forest management is not usually expected to result in a permanent loss of suitable roosting or foraging habitat for northern long-eared bats. On the contrary, forest management is expected to maintain a forest over the long term for the species. However, localized temporary reductions in suitable roosting and/or foraging habitat can occur from various forest practices (*e.g.,* clearcuts). As stated above, northern long-eared bats have been found in forests that have been managed to varying degrees, and as long as there is sufficient suitable roosting and foraging habitat within their home range and travel corridors between those areas, we would expect northern long-eared bat colonies to continue to occur in managed landscapes. However, in areas with WNS, northern long-eared bats may be less resilient to stressors and maternity colonies are smaller. Given the low inherent reproductive potential of northern long-eared bats (one pup per female per year), death of adult females or pups or both during tree felling could reduce the long-term viability of some of the WNS-impacted colonies if they are also in the relatively small percentage of forest habitat directly affected by forest management.

As we documented in the interim 4(d) rule, forestry management and silviculture are vital to the long-term survival and recovery of the species. Based on information obtained during comment periods, approximately 2 percent of forests in States within the range of the northern long-eared bat are impacted by forest management activities annually (Boggess et al., 2014, p.9). Of this amount, in any given year, a smaller fraction of forested habitat would be impacted during the active season when female bats and pups are most vulnerable. Therefore, we have determined that when the prohibitions for the northern long-eared bat included in this final 4(d) rule are applied to forest management activities, the potential impacts will be significantly reduced.

Forest Conversion

In our listing determination for the northern long-eared bat, we noted that current and future forest conversion may have negative additive impacts where the species has been impacted by WNS (80 FR 17991; April 2, 2015). Our assessment was based largely on the species' summer-home-range fidelity and the potential for increased energetic demands for individuals where the loss of summer habitat had been removed or degraded (*e.g.,* fragmentation). We noted that forest conversion ''can result in a myriad of effects to the species, including direct loss of habitat, fragmentation of remaining habitat, and direct injury or mortality'' (80 FR 17993; April 2, 2015). In the interim 4(d) rule we exempted most forest-management activities except for the conversion of mature hardwood or mixed forest into intensively managed monoculture-pine plantation stands, or non-forested landscape (80 FR 18025; April 2, 2015).

Many of the comments on the proposed and interim 4(d) rules noted that habitat is not limiting for the northern long-eared bat. As we documented in the final listing determination (80 FR 1802; April 2, 2015), the extent of conversion from forest to other land cover types has been fairly consistent with conversion to forest (cropland reversion/plantings). Further, the recent past and projected amounts of forest loss to conversion was, and is anticipated to be, only a small percentage of the total amount of forest habitat. For example by 2060, 4 to 8 percent of the forested area found in 2007 across the conterminous United States is expected to be lost (U.S Forest Service 2012, p. 12). The northern long-eared bat has been documented to use a wide variety of forest types across its wide range. Therefore, we agree that the availability of forested habitat does not now, nor will it likely in the future, limit the conservation of the northern long-eared bat.

We have determined that when the prohibitions for the northern long-eared bat included in this final 4(d) rule are applied to forest-conversion activities, the potential for negative additive impacts to individuals or colonies is significantly reduced. As WNS impacts bat populations, unoccupied, suitable forage and roosting habitat will be increasingly available for remaining bats.

Tree-Removal Conservation Measures

Under this final 4(d) rule, incidental take within the WNS zone involving tree removal is not prohibited if two conservation measures are followed. The first measure is the application of a 0.25 mile (0.4 km) buffer around known occupied northern long-eared bat hibernacula. The second conservation measure is that the activity does not cut or destroy known occupied maternity roost trees, or any other trees within a 150-foot (45-m) radius around the maternity roost tree, during the pup season (June 1 through July 31). The rationale for these measures is discussed below.

Conservation Measure 1: Tree Removal Near Known Northern Long-eared Bat Hibernacula

''Known hibernacula'' are defined as locations where one or more northern long-eared bats have been detected during hibernation or at the entrance during fall swarming or spring emergence. Given the documented challenges of surveying for northern long-eared bats in the winter (use of cracks, crevices that are inaccessible to surveyors), any hibernacula with northern long-eared bats observed at least once, will continue to be considered ''known hibernacula'' as long as the hibernacula remains suitable for the northern long-eared bat. A hibernaculum remains suitable for northern long-eared bats even when *Pd* or WNS has been detected.

We have adopted the 0.25-mile (0.4-km) buffer around known northern long-eared bat hibernacula for several reasons: (1) It will help to protect micro-climate characteristics of the hibernacula; (2) for many known hibernacula, bats use multiple entrances that may not be reflected in the primary location information (*e.g.,* bats may use other smaller entrances that are often spread out from the main entrance accessed for surveys or other purposes) and the hibernacula may have extensive underground features that extend out from known entrances; (3) in the late summer and fall when bat behavior begins to center on hibernacula (swarming), it appears that northern long-eared bats may roost in a widely dispersed area, which may reduce the potential that any activity outside of this buffer would significantly affect the species; (4) outside of the maternity period, northern long-eared bats have demonstrated the ability to adapt to forest-management-related and other types of disturbances; and (5) regardless of the buffer size, bats will remain fully protected from take while in the hibernacula, when they are most vulnerable.

The microclimate, temperature, humidity, and air and water flow within a hibernaculum are all important variables that could potentially be impacted by forest management or other activities when conducted in proximity to a hibernaculum. A 0.25-mile (0.4-km) buffer will protect the hibernaculum's microclimate. Studies that have evaluated the depth of edge influence from forest edge or tree removal on temperature, humidity, wind speed, and light penetration suggest that although highly variable among forest types and other site-specific factors (such as aspect and season), the depth of edge influence can range from 164 feet (50 m) (Matlack 1993, p. 193) to over 1,312 feet (400 m) (Chen et al. 1995, p. 83). However, the hibernacula often selected by northern long-eared bats are ''large, with large passages'' (Raesly and Gates 1987, p. 20), and may be less affected by relatively minor surficial micro-climatic changes that might result from the limited exempted activities outside of the 0.25-mile (0.4-km) buffer. Further, bats rarely hibernate near the entrances of structures (Grieneisen 2011, p. 10), as these areas can be subject to greater predation (Grieneisen 2011, p. 10; Kokurewicz 2004, p. 131) and daily temperature fluctuations (Grieneisen 2011, p. 10). Davis et al. (1999, p. 311) reported that partial clearcutting ''appears not to affect winter temperatures deep in caves.'' Caviness (2003, p. 130) reported that prescribed burns were found to have no notable influence on bats hibernating in various caves in the Ozark National Forest. All bats present in caves at the beginning of the burn were still present and in ''full hibernation'' when the burn was completed, and bat numbers increased in the caves several days after the burn. There were minute changes in relative humidity and temperature during the burn, and elevated short-term levels of some contaminants from smoke were noted.

Northern long-eared bat hibernacula can be large and complex and, spatially, may not be fully represented in locational information contained in species records by State or Federal agencies or by natural heritage programs. A 0.25-mile (0.4-km) buffer will help protect the spatial extent of many known hibernacula. For example, one limestone mine in Ohio used by northern long-eared bats had approximately 44 miles (71 km) of passages and multiple entrances (Brack 2007, p. 740). In northern Michigan, bats (including northern long-eared bats) occupied mines that were more structurally complex and longer (1,007 ft ± 2,837 ft (307m ± 865 m) than mines that were unoccupied, and the occupied mines had a total length of passages that ranged from 33 feet to 4 miles (10 meters to 6.4 kilometers) (Kurta and Smith 2014, p. 592).

Only a relatively small proportion of the areas where swarming northern long-eared bats may occur are likely to be affected by tree-removal activity. There are over 1,500 known hibernacula for the species in the United States (Service 2015, unpublished data), several known in Canada, and potentially many others yet to be identified. Lowe (2012, p. 58) reported that the roosts of northern long-eared bats were evenly distributed over distances within 4.6 miles (7.3 km) from a swarming site. If the northern long-eared bat's potential swarming habitat (including foraging habitat during that period) can be approximated as the forest habitat within 5 miles (8.1 km) of hibernacula, that equates to a 50,265 acre (20,342 ha) area per hibernaculum. In any given year, only a small proportion of the forest habitat within the potential swarming habitat is likely to be impacted by tree-removal activities (*e.g.,* generally 2 percent of forests are managed in any given year and over 1,500 hibernacula documented as used by the species). Similarly, forest conversion is anticipated to be relatively small compared to available habitat; therefore, based on our current understanding of potential swarming-habitat, on the scale of 50,000 acres (20, 342ha) per hibernaculum, the relatively small foot-print of activities not prohibited by this final rule are unlikely to affect the conservation or recovery potential of the species. Raesly and Gates (1987, p. 24) evaluated external habitat characteristics of hibernacula and reported that for the northern long-eared bat the percentage of cultivated fields within 0.6 miles (1 km) of the hibernacula was greater (52.6 percent) for those caves used by the species, than for those caves not used by the species (37.7 percent), suggesting that the removal of some forest around a hibernacula can be consistent with the species needs.

Outside of the maternity period, northern long-eared bats have demonstrated the ability to respond successfully to forest-management-related and other types of disturbances. Therefore, the limited disturbance associated with incidental-take exceptions outside of the 0.25-mile (0.4-km) buffer on hibernacula is consistent with the conservation of the species. For example, Silvis et al.'s (2015, p.1) experimental removal of roosts suggested that the ''loss of a primary roost or 20 percent of secondary roosts in the dormant season may not cause northern long-eared bats to abandon roosting areas or substantially alter some roosting behaviors in the following active season when tree-roosts are used.''

Prior to WNS, the most significant risk identified for northern long-eared bat conservation was direct human disturbance while bats are hibernating (*e.g.,* Olson et al. 2011, p. 228; Bilecki 2003, p. 55; Service 2012, unpublished data). This final 4(d) rule (within the WNS zone) addresses these impacts.

We have prohibited incidental take of northern long-eared bats under specific tree-removal circumstances; however, that does not mean that all activities involving tree-removal activities within the 0.25-mile (0.4-k) buffer of hibernacula will result in take. For example, a timber harvest might be conducted within 0.25 miles (0.4 km) of a hibernaculum at a time when bats are unlikely to be roosting in trees within the buffer (*e.g.,* winter), which fully protects any bats in the hibernaculum as well as the hibernaculum's suitability for bats (*i.e.,* access, microclimate), and does not significantly change the suitability of the habitat for foraging by northern long-eared bats or perhaps even improves prey availability. In such a case, the timber harvest, although closer than 0.25 miles (0.4 km) to the hibernaculum, is not likely to result in incidental take so we would not recommend that the harvester seek authorization for incidental take pursuant to the Act. For activities planned within 0.25 miles (0.4 km) of hibernaculum, we encourage you to contact the local Ecological Services Field Office (*http://www.fws.gov/offices*) to help evaluate the potential for take of northern long-eared bats.

Conservation Measure 2: Tree Removal Near Known Maternity Roost Trees

Female northern long-eared bats roost communally in trees in the summer (Foster and Kurta 1999, p. 667) and exhibit fission-fusion behavior (Garroway and Broders 2007, p. 961), where members frequently roost together (fusion), but the composition and size of the groups is not static, with individuals frequently departing to be solitary or to form smaller or different groups (fission) (Barclay and Kurta 2007, p. 44). As part of this behavior, northern long-eared bats switch tree roosts often (Sasse and Pekins 1996, p. 95), typically every 2 to 3 days (Foster and Kurta 1999, p. 665; Owen et al. 2002, p. 2; Carter and Feldhamer 2005, p. 261; Timpone et al. 2010, p. 119). In Missouri, the longest time spent roosting in one tree was 3 nights (Timpone et al. 2010, p. 118). Bats switch roosts for a variety of reasons, including temperature, precipitation, predation, parasitism, sociality, and ephemeral roost sites (Carter and Feldhamer 2005, p. 264).

Maternity colonies, consisting of females and young, are generally small, numbering from about 30 (Whitaker and Mumford 2009, p. 212) to 60 individuals (Caceres and Barclay 2000, p. 3); however, one group of 100 adult females was observed in Vermilion County, Indiana (Whitaker and Mumford 2009, p. 212) and Lereculeur (2013, p. 25) documented a colony of at least 116 northern long-eared bats. In West Virginia, maternity colonies in two studies had a range of 7 to 88 individuals (Owen et al. 2002, p. 2) and 11 to 65 individuals, with a mean size of 31 (Menzel et al. 2002, p. 110). Lacki and Schwierjohann (2001, p. 485) found that the number of bats within a given roost declined as the summer progressed. Pregnant females formed the largest aggregations (mean=26) and post-lactating females formed the smallest aggregation (mean=4). Their largest overall reported colony size was 65 bats.

Northern long-eared bats change roost trees frequently, but use roost areas repeatedly and to a lesser extent, reuse specific roosts (*e.g.,* Cryan et al. 2001, p. 50; Foster and Kurta 1999, p. 665). The northern long-eared bat appears to be somewhat flexible in tree-roost selection, selecting varying roost tree species and types of roosts throughout its range. Females tend to roost in more open areas than males, likely due to the increased solar radiation, which aids pup development (Perry and Thill 2007, p. 224). Fewer trees surrounding maternity roosts may also benefit juvenile bats that are starting to learn to fly (Perry and Thill 2007, p. 224). Female roost-site selection, in terms of canopy cover and tree height, changes depending on reproductive stage; relative to pre- and post-lactation periods, lactating northern long-eared bats have been shown to roost higher in tall trees situated in areas of relatively less canopy cover and lower tree density (Garroway and Broders 2008, p. 91).

The northern long-eared bat's tendency for frequent roost switching may help them avoid or respond effectively to disturbance by people outside of the maternity season. The frequent-roost-switching behavior of northern long-eared bat suggests that they are adapted to responding quickly to changes in roost availably (ephemeral roosts), changing environmental conditions (temperature), prey availability, or physiological needs (torpor, reproduction). In a study of radio-tracked northern long-eared bats responding to the disturbance from prescribed fire (Dickinson et al. 2009, pp. 55–57), the bats appeared ''to limit their exposure to conditions created by fire. At no point did they fly outside of their typical home range area, nor did they travel far from the burn itself.'' While some of the bats soon returned to areas recently burned, by day 6 and 7 post burn, they ''appeared to return to pre-burn norms in terms of emergence time, length of foraging bouts, and use of the burn unit and adjacent habitats.'' Carter et al. (2000, pp 139–140), noted that ''During the summer months, bats are able to arouse quickly as the difference between the ambient temperature and active body temperature of bats is less. Most bat species utilizing trees and snags have multiple roosts throughout the forest (Sasse and Pekins 1996; Callahan et al. 1997; Menzel et al. 1998; Foster and Kurta 1999, Menzel et al. 2001), providing alternate roosts should the current roost be destroyed by fire.'' Sparks et al. (2008, pp. 207–208) documented that northern long-eared bats released in the open during the day demonstrated a successful rapid ''flight-to-cover'' response.

Adult females give birth to a single pup (Barbour and Davis 1969, p. 104). Birthing within the colony tends to be synchronous, with the majority of births occurring around the same time (Krochmal and Sparks 2007, p. 654). Parturition (birth) likely occurs in late May or early June (Caire et al. 1979, p. 406; Easterla 1968, p. 770; Whitaker and Mumford 2009, p. 213), but may occur as late as July (Whitaker and Mumford 2009, p. 213). Upon birth, the pups are unable to fly, and females return to nurse the pups between foraging bouts at night. In other *Myotis* species, mother bats have been documented carrying flightless young to a new roosting location (Humphrey et al. 1977, p. 341). The ability of a mother to move young may be limited by the size of the growing pup. Juvenile volancy (flight) often occurs by 21 days after birth (Krochmal and Sparks 2007, p. 651; Kunz 1971, p. 480) and has been documented as early as 18 days after birth (Krochmal and Sparks 2007, p. 651). Prior to gaining the ability to fly, juvenile bats are particularly vulnerable to tree-removal activities. Based on this information, we have determined that the most sensitive period to protect pups at maternity roost trees is from June 1 through July 31 (the ''pup season'').

Known occupied maternity roost trees are defined as trees that have had female northern long-eared bats or juvenile bats tracked to them or the presence of female or juvenile bats is known as a result of other methods. Once documented, northern-long eared bats are known to continue to use the same roosting areas. Therefore, a tree will be considered to be a ''known, occupied maternity roost'' as long as the tree and surrounding habitat remain suitable for northern long-eared bats. The incidental take prohibition for known, occupied maternity roosts trees applies only during the during the pup season (June 1 through July 31).

In addition to protecting the known roosts, we have also included in this conservation measure avoiding the cutting or destroying of any other trees within a 150-foot (45-meter) radius from the known, occupied maternity roost tree during the pup season (June 1 through July 31). Leaving a buffer of other trees around the maternity roost tree will help to protect the roost tree from damage or destruction that may be caused by other nearby trees being removed as well as helping protect the roost tree from wind throw and micro-climate changes. O'Keefe (2009 p. 42) documented that a 39-foot (12-meter) buffer around a maternity roost tree during a harvest in May allowed the roost to be successfully used through late July and that one buffered tree was used 2 years in a row. We have adopted a standard for exception of take that is almost four times that which proved effective in this example, in order to better account for the variation in forest types used by the northern long-eared bat and a variety of slopes that might influence how large a buffer may need to be in order to prove effective. Roost trees used by northern long-eared bats are often in fairly close proximity to each other within the species' summer home range. For female northern long-eared bats, the mean distance between roosts was reported as 63m to 600m from a variety of studies published 1996 through 2014 (Foster and Kurta 1999 p. 665; Cryan et al. 2001, p. 46; Swier 2003, pp. 58–59; Jackson 2004, p. 89; Henderson and Broders 2008, p. 958; Johnson et al. 2009, p. 240; Badin 2014, p. 76; Bohrman and Fecske, unpublished data). Further, within that data, the distance between roosts was reported as small as 5 meters in one study (Badin 2014, p. 76) and 36 meters in another (Jackson 2004, p. 89). As Sasse 1995, p. 23, noted ''some roost sites appeared to be 'clustered' together.'' Therefore, even this modest additional buffer may also protect other roosts trees used by female northern long-eared bats during the maternity period that have not yet been documented. In addition, because colonies occupy more than one maternity roost in a forest stand and individual bats frequently change roosts, in some cases a portion of a colony or social network is likely to be protected by multiple 150-foot buffers during the maternity season.

Currently, since most States and natural heritage programs do not track roosts and many have not tracked any northern long-eared bat occurrences, we recognize that not all northern long-eared bat maternity roost sites are known. Therefore, this measure will not protect an unknown maternity roosts unless it falls under one of the buffers related to protecting a known roost or hibernaculum.

Although not fully protective of every individual, the conservation measures identified in this final rule help protect maternity colonies. This final species-specific rule under section 4(d) of the Act provides the regulatory flexibility for certain activities to occur that have not been the cause of the species' imperilment, while allowing us to focus conservation efforts on WNS, promoting conservation of the species across its range.

Additional Prohibitions and Exceptions

In this final 4(d) rule we carry forward other standard prohibitions and exceptions that are typically applied to threatened species and are currently applicable under the interim rule for the northern long-eared bat. These prohibitions included the possession of and other acts with unlawfully taken northern long-eared bats, as well as import and export. We also included standard exemptions, including all the permitting provisions of 50 CFR 17.32 and the exemption for employees or agents of the Service, of the National Marine Fisheries Service, or of a State conservation agency when acting in the course of their official duties to take northern long-eared bats covered by an approved cooperative agreement to carry out conservation programs.

Summary of Comments and Recommendations on the Proposed and Interim 4(d) Rules

The northern long-eared bat was listed as a threatened species under the Act, with an interim rule under section 4(d) of the Act, on April 2, 2015 (80 FR 17974). At that time, the Service invited public comments on the interim 4(d) rule for 90 days, ending July 1, 2015. The Service had already received comments for 60 days on its proposed 4(d) rule (80 FR 2371, January 16, 2015). In total, the Service received approximately 40,500 comments on the proposed and interim 4(d) rules. We discuss them below.

Peer Reviewer Comments

1. *Comment:* Peer reviewer(s) commented that the 0.25-mile (radius) around hibernacula is an inadequate buffer. There were additional suggestions for alternative buffer distances as well as more detail on how activities might be limited within those buffers. A specific suggestion of a 1.6-mile buffer was made, with a statement that most forest practices could occur within the buffer provided that the trees were not completely removed (conversion). In addition, a suggestion of 0.5-mile buffer was made.

Our Response: We have revised the approach used in this final 4(d) rule to ensure that hibernating northern long-eared bats in the WNS zone are protected from incidental take independent of the buffer size used in the conservation measure. In addition, all northern long-eared bats both in and outside of the WNS zone are protected from purposeful take (*e.g.,* killing or intentionally harassing northern long-eared bats), including while in the hibernacula where they are most vulnerable. We have retained the 0.25-mile buffer (0.25-mile radius around known hibernacula entrance/access points used by bats) to further protect the hibernaculum and associated forested habitat for several reasons (see discussion above under *Conservation Measure 1: Tree Removal Near Known Northern Long-eared Bat Hibernacula*). Some of the peer-reviewers recommended that within the hibernacula buffer that certain limited activities should be allowed (*e.g.,* timber harvest that only removes a small percentate of the forest habitat when bats are not active). As discussed above under *Conservation Measure 1: Tree Removal Near Known Northern Long-eared Bat Hibernacula,* not all tree-removal activities within the buffer of hibernacula will result in take. For example, a timber harvest might be conducted within the buffer when bats are unlikely to be roosting in trees (*e.g.,* winter) that fully protects any bats in the hibernaculum as well as the hibernaculum's suitability for bats (*i.e.,* access, microclimate), and does not significantly change the suitability of the habitat for foraging by northern long-eared bats or perhaps even improves prey availability. In such a case, the timber harvest, although within the buffer, is not likely to result in incidental take so we would not recommend that the harvester seek authorization for incidental take pursuant to the Act. Because the buffer only applies to actions that result in incidental take of the northern long-eared bat, we determined that there was no need to attempt to exempt activities (*e.g.,* a limited timber harvest) where incidental take is unlikely.

2. *Comment:* Peer reviewer(s) commented that the WNS buffer zone should be removed and protections should occur throughout the range of the species.

Our Response: We have established prohibitions on the purposeful take of northern long eared bats throughout the species range. However, because WNS is the most significant threat known to be imperiling the species, we have determined that in areas where WNS has not been detected, additional prohibitions are not warranted. We recognize that the WNS zone will change over time. We remain committed to regularly updating the WNS zone map as new information about the spread of the *Pd* fungus becomes known.

3. *Comment:* Peer reviewer(s) commented that the WNS buffer zone should be expanded and/or changed to accommodate a more site-specific approach, based on proximity to hibernacula, for example.

Our Response: We reevaluated the approach to the WNS zone in this final rule and determined that the 150-mile buffer used for the interim 4(d) rule appears to be very effective in capturing counties where new *Pd* detections are reported, in particular when looking at the new occurrences over the last 5 years. For more details of this analysis, please see our discussion in the WNS Zone section of this rule.

4. *Comment:* Peer reviewer(s) commented that the Service's definitions relative to forestry practices should be more precise and should use silviculture terminology.

Our Response: We have revised the prohibitions to no longer use specific forestry practices or silviculture terminology. Take of the northern long-eared bat within the context of forest management is not prohibited provided that conservation measures to protect hibernacula and known maternity roost trees are implemented as described in this rule.

5. *Comment:* Peer reviewer(s) recommended that the seasonal restrictions for the northern long-eared bat "pup season" be expanded and/or based on climate and geography within the species' range.

Our Response: We recognize that in some areas or in some years the period when young northern long-eared bats are non-volant may be earlier or later than the June and July timeframe. The timing of when northern long-eared bats give birth is likely a complex interplay of a variety of factors affecting fetal development (*e.g.,* condition of the mother, temperature, prey availability), and similar factors may also influence the time required for young to develop the ability to fly. In addition, a study in West Virginia documented that the peak pregnancy and lactation dates shifted post WNS (Francl et al. 2012, p. 36). However, looking across a variety of studies, the June and July timeframe appears to generally capture what is typically reported as the non-volant period for northern long-eared bats across much of their range within the United States. We have determined that a single timeframe for implementing the prohibition on maternity roost tree removal provides clarity for the regulated public. In addition, while it does not modify the incidental take prohibition established in these regulations, our local field offices may be able to provide more refined local estimates of the non-volant period for specific areas. Project planners may choose to use these local estimates for planning purposes where they are available.

6. *Comment:* Peer reviewer(s) recommended year-round protections for maternity roost trees or conversely that we remove entirely the protections for maternity trees because it is ineffective and serves as a disincentive for conducting surveys.

Our Response: Although northern long-eared bats have been documented to use some roost trees over multiple years, in many cases it is because the tree is dead or dying or has structural defects that provides the roosting features attractive to the species. Further, maternity roost trees are used only briefly (*e.g.,* northern long-eared bats typically change roosts every few days, and only a relatively small percentage of those are used more than once in any one season). Given that maternity roosts trees are ephemeral on the landscape and used for very short periods of time in the active season, we determined that year-round protections for known, occupied maternity roost trees are not warranted. We considered removing the protections for known, occupied maternity roosts as recommended by another peer reviewer, but instead modify the protection so as to minimize the disincentive for conducting surveys. In developing this final rule, we kept protections for known, occupied maternity roosts for two reasons: (1) While it may be unlikely, in cases where a tree was about to be removed, but was known to be occupied by northern long-eared bats, they would have some protections while the young could not fly; and (2) we wanted known, occupied maternity roosts to be given consideration because they help to signal to project planners an area that is likely to be used by northern long-eared bats in the future (as this species has a high degree of site fidelity). We refined the protection for known, occupied maternity roosts to make it as practical to implement as possible in order to minimize the disincentive created for conducting surveys. Many forest managers implement similar types of relatively small seasonal buffers to protect other species of sensitive wildlife (*e.g.,* around nesting raptors) and therefore we do not view this provision as a real disincentive to conducting surveys. Please see the *Conservation Measure 2: Tree Removal Near Known Maternity Roost Trees* section of this rule for additional details. We believe that the seasonal restriction helps to protect the most vulnerable life stages, in this case the non-volant pups, and is adequate for the purposes of this rule.

7. *Comment:* Peer reviewer(s) recommended that pregnant females should be protected as part of the seasonal restriction criteria.

Our Response: We recognize that pregnant females may be in torpor or less able to flee in early spring. However, we did not have information on how pregnancy in northern long-eared bats influenced the degree of torpor or their ability to flee from disturbance. As discussed in this rule, we expect only a small percentage of the species' forested habitat to be affected by activities (*e.g.,* tree removal, prescribed fire) that might impact a pregnant northern long-eared bats in torpor and, therefore, we expect only small proportion of the species' population to be potentially exposed to these activities. Because of the relatively small exposure and uncertainty about how pregnancy affects degree of torpor or ability to flee, we have not expanded the seasonal protections for this purpose. We believe that seasonal restrictions help protect the vulnerable pup stage, when young pups cannot fly, and are adequate for the purposes of this rule.

8. *Comment:* Peer reviewer(s) stated that the conservation efforts will not be effective because the natural heritage data are limited with respect to known maternity roost trees and hibernacula.

Our Response: We agree that the data are limited and this can be challenging from the implementation and/or project planning perspective. However, we have purposefully limited protections where possible, to minimize the potential disincentive to continue to survey for the species. However, we anticipate that information in State natural heritage data bases will continue to improve post-listing.

9. *Comment:* Peer reviewer expressed concern with allowing lethal take of northern long-eared bats from human dwellings.

Our Response: We encourage the non-lethal removal of northern long-eared bats from human structures, preferably by excluding them outside of the maternity period, whenever possible. However, because of the potential for human health considerations, we have not required this as part of the exception to the purposeful take prohibition. We have limited this take to houses, garages, barns, sheds, and other buildings designed for human entry.

Public Comments

General

10. *Comment:* Commenters from many development sectors requested that their activities be included in the suite of exempted activities under the 4(d) rule (specific sectors addressed below).

Our Response: In general, this final rule has been restructured to clarify prohibitions to take rather than to rely on a list of excepted activities. Prohibitions are applied in this final rule where necessary and advisable for the conservation of the species. Therefore, the various ''sectors'' do not need to be identified or ''excepted'' to apply rule provisions.

Forest Management

11. *Comment:* Several commenters recommended that forest conversion be included as an excepted activity. Comments were specific to conversion of hardwood forests to pine plantations, managed pine forest, pine ecosystem, and the Service's characterization of pine stands as monoculture stands representing poor bat habitat.

Our Response: Incidental take resulting from forest management, including forest conversion, is not a prohibited action pursuant to this final 4(d) rule provided conservation measures to protect known hibernacula and known, occupied maternity roost trees are employed. Please see sections above titled Forest Management and Forest Conversion.

12. *Comment:* Commenters stated that forest management must occur to avoid habitat deterioration to poor quality bat habitat. They further stated that forest health depends upon active management including tree removal and clearcutting.

Our Response: We agree that forest management can be very important in creating or maintaining forest successional patterns that help to ensure suitable trees are available for roosting northern long-eared bats. Further, forest management can help to increase prey availability or suitability of foraging habitat. Please see our discussion above under Forest Management for additional details. Incidental take resulting from forest management is not prohibited pursuant to this final 4(d) rule provided conservation measures to protect known hibernacula and known maternity roost trees are employed.

13. *Comment:* Commenters suggested that the Service consider exemptions for sustainable forest practices implemented under a sustainable forest management plan or sustainable forestry certificate program.

Our Response: We considered incorporating other possible conservation measures related to forest management and conversion. However, given the overall small percentage of the species' range potentially affected by these activities in any given year, it was not clear that additional conditions related to incidental take from forest management or conversion would meaningfully change the conservation outlook for the species. Further, adding protections with uncertain benefits, but with large potential public impacts can hinder support for species conservation. Incidental take resulting from forest management is not prohibited pursuant to this final 4(d) rule provided conservation measures to protect known hibernacula and known, occupied maternity roost trees are employed.

14. *Comment:* Commenters stated that the Service should focus on the elimination of WNS rather than regulating timber harvest in summer habitat.

Our Response: Efforts to address the threat posed by WNS are on-going by the Service and many partners across the species range. Incidental take resulting from forest management or forest conversion is not prohibited pursuant to this final 4(d) rule provided conservation measures to protect known hibernacula and known, occupied maternity roost trees are employed.

15. *Comment:* A commenter stated that the Service should halt commercial timber harvest and another commenter suggested restricting the removal of snags and coarse woody debris in areas populated by the species.

Our Response: The northern long-eared bat is not limited in terms of habitat availability for feeding, breeding, and sheltering in the summer (non-hibernating) months. Please see the discussions under Forest Management and Forest Conversion above in this rule. We have carefully considered the value of habitat protection for the species. We have determined that protection of summer habitat is not required for species conservation except where trees may be occupied by young, non-volant (flightless) pups and for areas immediately surrounding hibernacula where they swarm and feed just prior to hibernation and when they emerge from hibernation in the spring. Due to this swarming behavior and the vulnerability of bats when hibernating, we have determined that take prohibitions are necessary and advisable in winter habitat (hibernacula), where bats are subject to the effects of WNS. In addition, we have determined that protection of known, occupied maternity roost trees is necessary and advisable in order to protect young pups.

16. *Comment:* The Service should increase protections to avoid impacts to bats from the point that they emerge from hibernation to the end of the maternity/pup season. Forest management should only be done in a manner that retains sufficient vegetative cover and protects northern long-eared bats at the maternity colony level.

Our Response: We considered incorporating other possible conservation measures related to forest management and conversion. However, given the overall small percentage of the species' range potentially affected by these activities in any given year, it was not clear that additional conditions related to the incidental take from forest management or conversion would meaningfully change the conservation outlook for the species. Further, adding protections with uncertain benefits, but with large potential public impacts can hinder support for the species conservation. We have determined that protection of known, occupied maternity roost trees during the months of June and July is an adequate conservation measure for the protection of non-volant pups.

17. *Comment:* Commenter(s) suggested an exemption for invasive species management in forested landscapes.

Our Response: Outside of hibernacula, this final rule does not prohibit take from activities other than tree removal. Therefore, incidental take associated with management of invasive species using pesticides or other interventions is not prohibited. Where intervention involves tree removal, conservation measures must be followed to comply with this rule. However, entities that cannot apply the required conservation measures have other means to have take excepted, such as section 10 permits or section 7 incidental take authorization.

Human Structures

18. *Comment:* Commenters suggested expansion of the definition of human structures/dwellings to include bridges, culverts, cattle passes, and other human-made structures.

Our Response: This final rule does not prohibit direct take of northern long-eared bats occupying human structures defined as houses, garages, barns, sheds, and other buildings designed for human entry. While we encourage landowners and project proponents to find other mechanisms to avoid killing or injuring bats that occupy bridges, culverts, and other structures, incidental take is not prohibited by this rule. While bridge and culvert use for the species has been documented, it is relatively uncommon compared to tree or other types of roost sites (*e.g.,* barns) and, therefore, did not warrant specific provisions in this final rule. Within the WNS zone, however, project proponents must apply conservation measures to avoid habitat removal around hibernacula and to avoid cutting or destroying known, occupied maternity roost trees or any other trees within a 150-foot radius from the maternity roost tree during June and July.

19. *Comment:* Commenters stated that take of northern long-eared bat in human dwellings should not be exempted and requested that the Service provide rationale for determining that this exemption is necessary.

Our Response: We encourage the non-lethal removal of northern long-eared bats from human structures whenever possible, preferably by excluding them from the structure outside of the maternity period. However, because of the potential for human health considerations, we have not required this as part of the exception to the purposeful take prohibition. Please see the discussion under Exceptions to the Purposeful Take Prohibition in this rule for additional details. Take of northern long-eared bats to remove them from human structures is not prohibited.

Hazardous Tree Removal

20. *Comment:* Several comments requested clarification and/or expansion of the exception to take for removal of hazardous trees.

Our Response: Our intent is to provide for the removal of hazardous trees for the protection of human life and property. This is not the same as hazard tree removal within the context of forest management or rights-of-way management where hazard trees are identified as trees that are in danger of falling. Incidental take of northern long-eared bats from hazardous tree removal in the context of rights-of-way management is not prohibited by the final 4(d) rule provided conservation measures to protect known hibernacula and known, occupied maternity roost trees are applied.

Minimal Tree Removal

21. *Comment:* Several commenters requested that minimal tree removal be expanded to a larger acreage.

Our Response: Conversion of forested cover to alternate uses is not prohibited under this final rule, provided that conservation measures are followed when those activities occur within the WNS zone. For a discussion of this issue, please see Forest Conversion section in this rule.

22. *Comment:* Several commenters stated that the exemption for minimal tree removal should be expanded to other (non-forest) industry entities and should include all activities that have a

minimal effect on the northern long-eared bat.

Our Response: Conversion of forested acreages to alternate uses is not prohibited under this final rule, provided that conservation measures are followed. This is applicable to all entities that may engage in activities that remove trees or convert forested acres. See the Forest Conversion section in this rule.

Oil and Gas Industry

23. *Comment:* A number of commenters from the oil and gas industry stated that the industry should be included within exemptions from take prohibitions because: (1) Their impact on northern long-eared bat habitat is small compared to forest management impacts; (2) habitat is re-vegetated following pipeline installation; (3) oil and gas exploration and transport are not the stated primary threat to the species (WNS is the primary threat); and (4) adequate regulatory mechanisms exist for mitigating industry environmental impacts.

Our Response: Take of northern long-eared bats attributable to habitat conversion and habitat loss is not prohibited under this final 4(d) rule, provided that developers and project proponents follow conservation measures described herein when activities occur within the WNS zone. See the Forest Conversion section in this rule.

Rights-of-Way

24. *Comment:* Commenter(s) stated that loss of habitat attributable to clearing for linear projects is miniscule compared to habitat conversion due to forest management.

Our Response: Incidental take attributable to maintenance, development, and rights-of-way expansion is not prohibited by this final 4(d) rule, provided conservation measures contained herein are followed when activities occur within the WNS zone.

25. *Comment:* Commenter(s) stated that the exception, as proposed and implemented via the interim rule, should be expanded to greater than 100-feet and should be clarified.

Our Response: Incidental take attributable to maintenance, development, and rights-of-way expansion is not prohibited by this final 4(d) rule, provided conservation measures contained herein are followed when activities occur within the WNS zone.

26. *Comment:* Commenter(s) stated that the exception for rights-of-way should be expanded to include new rights-of-way and transmission corridors.

Our Response: Incidental take attributable to maintenance, development, and rights-of-way expansion is not prohibited by this final 4(d) rule, provided conservation measures contained herein are followed when activities occur within the WNS zone.

27. *Comment:* Commenter(s) disagree with the Service's assertion that vegetation removal within or adjacent to rights-of-way is a small-scale alteration of habitat.

Our Response: It is within the context of the species range and potential for available habitat that right-of-way development, maintenance or expansion are small scale alterations of forest habitat. The extent of conversion from forest to other land cover types has been fairly consistent with conversion to forest (cropland reversion/plantings). Further, the recent past and projected amounts of forest loss to conversion from all sources was and is anticipated to be only a small percentage of the total amount of forest habitat. For example by 2060, 4 to 8 percent of forest area found in 2007 across the conterminous United States is expected to be lost (U.S Forest Service 2012, p. 12). We have not broadened the incidental prohibition related to habitat loss because WNS is the predominant threat to the species. Summer habitat does not now or in the future appear likely to be a limiting factor for the species; therefore, we have focused the protections on vulnerable individuals in summer habitat and protecting the winter habitat, where sensitivity to the effects of WNS is heightened.

28. *Comment:* Commenter(s) requested that the Service expand the rights-of-way exemption to include access roads and infrastructure required to deliver services.

Our Response: Incidental take attributable to maintenance, development, and rights-of-way expansion is not prohibited by this final 4(d) rule, provided conservation measures contained herein are followed when activities occur within the WNS zone. This includes related activities such as access road clearing and facilities related to delivery of services. In the case where tree removal is the activity in question, incidental take is not prohibited provided that the conservation measures herein are followed when those activities occur within the WNS zone.

29. *Comment:* Commenter suggested that the final 4(d) rule should prohibit all tree clearing activities related to the maintenance, repair, and creation of rights-of-way.

Our Response: The northern long-eared bat is not limited in terms of habitat availability for feeding, breeding, and sheltering in the summer (non-hibernating) months. We have carefully considered the value of habitat protection for the species. We have determined that protection of summer habitat is not required for species conservation except where trees are known to be occupied by northern long-eared bats when the young are non-volant (flightless) and for areas immediately surrounding hibernacula where they swarm and feed just prior to hibernation and when they emerge from hibernation in the spring.

Solar Energy

30. *Comment:* Commenter(s) requested that solar energy development be provided an exemption under the 4(d) rule.

Our Response: Solar energy developers will need to consider the impacts of their development and operations in light of the prohibitions of this rule. Incidental take outside of the WNS zone is not prohibited. Incidental take from tree-removal activities within the WNS zone is prohibited under specific conditions related to known hibernacula and known, occupied maternity roost trees (see Activities Involving Tree Removal section above for details).

Agriculture

31. *Comment:* Commenter(s) requested that agricultural activities be included in the suite of exempted activities under the 4(d) rule.

Our Response: We have substantially revised the prohibitions and exceptions in this final rule that may apply to agricultural activities. Agricultural producers/operators will need to consider the impacts of their activities in light of the prohibitions of this rule. Incidental take outside of the WNS zone is not prohibited. Incidental take from tree removal activities within the WNS zone is prohibited under specific conditions related to known hibernacula and known, occupied maternity roost trees (see Activities Involving Tree Removal, above, for details). This final rule has been restructured in a manner that it applies prohibitions where necessary and advisable for conservation of the species. Therefore, agricultural development and operations do not need to be specifically "excepted" in order to apply the rule's provisions.

Caves and Mines

32. *Comment:* Commenter(s) requested an exemption for show caves and cave tours.

Our Response: Hibernating bats are very sensitive to disturbance as discussed in greater detail under the Hibernacula section of this document. This final rule prohibits the incidental take of northern long-eared bats in hibernacula inside the WNS zone as well as the purposeful take (*e.g.,* purposefully harassing or killing) of northern long-eared bats in hibernacula both inside and outside of the WNS zone. When this species occupies caves or mines used by people regardless of the purpose, the provisions of this 4(d) rule apply. Show cave or mine activities inside the WNS zone that do not result in the incidental take of northern long-eared bats are not prohibited. In other words, if northern long-eared bats are not being disrupted from their normal hibernation behaviors (*e.g.,* by avoiding areas with hibernating bats, limiting noise and lighting in areas used by bats), we do not consider human use of the cave or mine to be a ''take'' of the bats.

33. *Comment:* Commenter(s) stated that an exemption should be made available for mining, mineral exploration, and coal extraction activities.

Our Response: Incidental take of northern long-eared bats that results from tree-removal activity, including mining operations, is prohibited in some circumstances (see Activities Involving Tree Removal, above). However, hibernating bats are very sensitive to disturbance, as discussed in greater detail under the Hibernacula section of this rule. This final rule prohibits the incidental take of northern long-eared bats in hibernacula inside the WNS zone as well as the purposeful take (*e.g.,* purposefully harassing or killing) of northern long-eared bats in hibernacula both inside and outside of the WNS zone. Inside the WNS zone, the take of northern long-eared bats in mines and man-made tunnels for mineral or coal extraction includes any activity that kills, injures, harms, or harasses the species. Mining, mineral exploration, and coal extraction activities will need to work with the Service to find alternative means to authorize take, such as through a section 10 permitting process or section 7 process where applicable. Mining activities inside the WNS zone that do not result in the incidental take of northern long-eared bats are not prohibited. In other words, if northern long-eared bats are not being killed, injured, or otherwise disrupted from their normal hibernation behaviors by the mining operations, we do not consider those activities to be a ''take'' of the bats.

34. *Comment:* Commenter(s) suggested that activities designed to re-claim abandoned mines or maintain cave environments for the benefit of wildlife species should be exempt under the 4(d) rule.

Our Response: We agree that beneficial reclamation and maintenance should be encouraged. However, exception from take prohibitions through a species-specific 4(d) rule is not the appropriate mechanism for authorizing this activity. Where abandoned mines and cave environments are in use by northern long-eared bats, take associated with maintenance is prohibited; however, we encourage project proponents to work with the Service to implement best management practices to avoid or minimize the effects of their actions in the interest of habitat improvement. We will work with project proponents to determine alternate ways to authorize activities, such as section 10 permits or section 7 incidental take authorization.

Mosquito Control

35. *Comment:* Commenter challenges the Service's assertion that chemicals used in mosquito control (malathion and others of comparable risk to mammals) pose a risk to northern long-eared bats; commenter further requests an exemption for mosquito control activities, especially where there is a public health risk.

Our Response: Please see the Environmental Contaminants section of this rule for details concerning our evaluation of the risks from pesticide applications. After careful consideration of the available information, we do not include in this rule a prohibition on the incidental take of northern long-eared bats as result of pesticide application provided the application is a ''lawful activity,'' that is, it must comply all applicable State laws. Any northern long-eared bat unlawfully taken pursuant to a State pesticide law would be a violation of this final 4(d) rule.

Adequacy and Clarity of 0.25 Mile Hibernacula Buffer

36. *Comment:* Commenter(s) suggested that this buffer is too restrictive for landowners.

Our Response: The Service has determined that a protective buffer around known hibernacula is necessary and advisable for the conservation of the species. Please see the discussion under *Conservation Measure 1: Tree Removal Near Known Northern Long-eared Bat Hibernacula* of this rule for our explanation of the need for this buffer. As described in that section, we have prohibited incidental take of northern long-eared bats under specific tree-removal circumstances; however, that does not mean that all activities involving tree-removal activities within the 0.25-mile (0.4-km) buffer of hibernacula will result in take. For example, a timber harvest might be conducted within 0.25 miles (0.4 km) of a hibernaculum at a time when bats are unlikely to be roosting in trees within the buffer (*e.g.,* winter) that fully protects any bats in the hibernaculum as well as the hibernaculum's suitability for bats (*i.e.,* bat's access, microclimate), and does not significantly change the suitability of the habitat for foraging by northern long-eared bats or perhaps even improves prey availability. In such a case, the timber harvest, although closer than 0.25 miles (0.4 km) to the hibernaculum, is not likely to result in incidental take, so we would not recommend that the timber harvester seek authorization for incidental take pursuant to the Act. Further, while incidental take of northern long-eared bats within that buffer is prohibited (in the WNS zone), it may be authorized on a case-by-case basis with further coordination with the Service at a local level. Take may be authorized through section 10 or section 7 of the Act. In addition, it is our expectation that project modifications may be made that would protect the hibernaculum and allow for the project proponent's objectives to be met.

37. *Comment:* Commenter(s) seek clarification on whether the buffer and prohibition to clearcutting (within the buffer) is a year-round restriction.

Our Response: Yes, the protection of the hibernaculum and a buffer around it is a year round protective measure and applies to all types of tree-removal activities in the WNS zone.

38. *Comment:* Commenter(s) suggested that the buffer around hibernacula be limited to fall swarming and spring emergence when northern long-eared bats are present.

Our Response: We have determined that protective measures must be considered year-round for several reasons, including that habitat lost outside of the spring emergence and fall swarming period could affect the suitability of those habitats later during spring emergence or fall swarming. Further, we have included the buffer on hibernacula for several reasons beyond protecting foraging habitat during fall swarming and spring emergence. In particular, the buffer will help to protect the micro-climate characteristics of hibernacula and other entrances used by bats that may not be reflected in the primary location information for hibernacula. For example, many caves or abandoned mines used may have entrances used by bats that are not reflected in the general location information for those sites that are used by people; a buffer helps to protect less prominent features that may be important to bats. Projects may be able to be planned or modified within those buffer areas to retain sufficient habitat and avoid harm; however, the Service considers coordination on a case-by-case basis to be important to assure necessary conservation.

39. *Comment:* Several commenter(s) suggested an increased buffer area around hibernacula would be more appropriate.

Our Response: We have revised the approach used in this final 4(d) rule to ensure that hibernating northern long-eared bats in the WNS zone are protected from incidental take independent of the buffer size used in the conservation measure. In addition, all northern long-eared bats both inside and outside of the WNS zone are protected from purposeful take (*e.g.,* killing or intentionally harassing northern long-eared bats), including while in hibernacula where they are most vulnerable. We have retained the 0.25-mile buffer (0.25-mile radius from known hibernacula entrance/access points used by bats) to further protect the hibernacula and associated forested habitat for several reasons (see discussion above under *Conservation Measure 1: Tree Removal Near Known Northern Long-eared Bat Hibernacula*).

40. *Comment:* Commenter(s) expressed concern with implementing measures when they do not have data/information on known hibernacula.

Our Response: The Service recognizes the challenges associated with data sharing and data management. Many states share data management concerns and guard data carefully. We encourage landowners to continue to work with your State natural resources and natural heritage staff to evaluate your ownership for the presence of these important resources. When seeking information on the presence of hibernacula within your project boundary, our expectation is that a project proponent will complete due diligence to determine available data. However, if information is not available, we recognize that the project proponent that has made reasonable efforts to determine whether there are known hibernacula on the property is in the position of not knowing if no data have been provided.

Maternity Roost Tree Restrictions

41. *Comment:* Commenter(s) expressed concerns about having adequate information to identify maternity roost trees.

Our Response: We recognize the challenges associated with data sharing. Please see response to Comment 40. While not required by this rule, the Service recommends summer surveys to definitively locate maternity roost trees.

42. *Comment:* Commenter(s) requested that we clarify that roost trees means maternity roost trees.

Our Response: We have made this final 4(d) rule specific to maternity roost trees.

43. *Comment:* Commenter(s) expressed disagreement with the 0.25 mile buffer around known, occupied roost trees. Some commented that this buffer was too small, while some commented that it was too large.

Our Response: In the interim 4(d) rule (80 FR 17974; April 2, 2015), the buffer around known, occupied roost trees applied only to some types of tree-removal activities (*e.g.,* forest management, rights-of-ways, prairie management) and excluded only clearcuts (and similar harvest methods). Given the relatively small percent of forest habitat anticipated to be impacted by forest management or conversion (see Forest Management and Forest Conversion, above of this rule for more details), we revised the buffer around the known maternity roost trees. As explained in more detail under *Conservation Measure 2: Tree Removal Near Known Maternity Roost Trees,* we have made the buffer more broadly applicable to all tree-removal activities, but have narrowed it in size to provide protection for the maternity roost tree, while minimizing the potential that the protective measure would serve as impediment to conducting new surveys. We have reduced the buffer around known, occupied maternity roost trees to a radius of 150 feet around the known, occupied maternity roost tree.

44. *Comment:* Commenter(s) stated that the Service should require surveys to determine where roost trees are located.

Our Response: The Act does not require a private landowner to survey his or her property to determine whether endangered or threatened wildlife and plants occupy their land. We encourage landowners to voluntarily seek additional information to conserve natural resources in their land use/land management actions; however, we will not require surveys to locate northern long-eared bats and maternity roost trees on private property.

Residential Housing Development

45. *Comment:* Commenter(s) requested that northern long-eared bat take be excepted for the purposes of residential housing development.

Our Response: Take resulting from removal of summer habitat (tree removal) is not prohibited provided the conservation measures set forth in this rule are followed when the habitat removal occurs within the WNS zone. The provisions of this final rule have been restructured to clarify prohibitions rather than rely on a list of excepted activities.

Wind Energy Development

46. *Comment:* Commenter(s) requested that northern long-eared bat take be excepted for the purposes of renewable energy development and operation (wind energy).

Our Response: Incidental take resulting from wind energy development and operation is not prohibited, provided that the conservation measures set forth in this rule are followed to protect hibernacula and known, occupied maternity roost trees. We strongly encourage voluntary conservation measures and best management practices such as feathering or elevated cut-in speeds to reduce impacts to northern long-eared bats and other bats; however, we have not prohibited incidental take attributable to wind energy in this final rule. Please see the Wind Energy Facilities section of this rule for additional details.

Natural Resource Management

47. *Comment:* Commenter(s) requested that northern long-eared bat take be excepted when activities are included in Department of Defense integrated natural resource management plans, providing for activities such as recreational activities, burns, and other temporary but insignificant effects on the northern long-eared bat.

Our Response: Incidental take resulting from activities described as recreational activities and beneficial wildlife habitat management/maintenance is not prohibited, provided that the conservation measures set forth in this rule are followed when the activity occurs inside the WNS zone. We have completed a section 7 analysis on the provisions of this final 4(d) rule to ensure that actions completed in accordance with the final rule are not likely to jeopardize the continued existence of the species. Where these resource management activities do not fit within the final rule, section 7 consultation would need to be completed to authorize incidental take of the northern long-eared bat.

Compliance and Monitoring

48. *Comment:* Commenter(s) recommended that surveys be required and that landowners be required to report on their activities in order to receive the benefits of the 4(d) rule.

Our Response: While we welcome landowners' efforts to determine where bats may be located on their property, the Act does not require that a landowner survey his or her property to find species. We are not mandating that surveys be completed as part of this rule.

Alternate Section 4(d) Provisional Language

49. *Comment:* One organization commented on behalf of its members and 14 other environmental organizations (collectively referenced as ''the Center'') in support of the adoption of a different 4(d) rule and in opposition of the Service's proposed and the interim 4(d) rules.

Our Response: The remaining paragraphs (under the heading Summary of Comments and Recommendations on the Proposed and Interim4(d) Rules) pertain to the comments we received from the Center. With respect to the overarching comment that our 4(d) rule does not conserve the species, we believe that our final 4(d) rule provides for the ''necessary and advisable'' conservation of the species, as described herein. For further information, please see our Determination section, below.

With respect to the Center's proposed 4(d) language, we note that the proposed language defines specific prohibitions and would make a regulatory determination of ''take'' to include a number of actions. These include cave and mine entry without implementing decontamination protocols; transporting equipment into caves and mines or between caves and mines between the WNS zone and non-WNS zone; cave and mine entry during hibernation periods; activities associated with hydraulic fracturing within 5 miles of a hibernaculum, within 1.5 miles of an occupied roost tree, or within 3 miles of an acoustic detection or bat capture record; noise disturbance activities within a 0.5-mile radius of a hibernaculum during the hibernation period; and disruption of water sources within hibernacula. With respect to protection of hibernacula, take of northern long-eared bats is prohibited. Establishing the causal connection between a variety of activities such as those the Center proposed to be defined as prohibitions is beyond the scope of this rule. We have addressed hibernacula protection provisions in this rule under the section entitled *Conservation Measure 1: Tree Removal Near Known Northern Long-eared Bat Hibernacula*. Protections in this final rule are adequate to protect the species.

In addition to the Center's suggested language for hibernacula prohibitions, they recommended language regarding prohibitions for prescribed burning and aerial spraying. Based on our analysis, we conclude that prescribed burning and aerial spraying do not have a measurable population-level impact on the species and regulation of those activities will not meaningfully impact the species' ability to recover. For further information on prescribed fire impacts, see Prescribed Fire above. For further information on aerial spraying of pesticides, please see the Environmental Contaminants section above.

The final prohibition suggested by the Center was the operation of utility-scale wind projects, specifically during the hours from dusk to sunrise during the fall swarming season, at low wind speeds, and within 5 miles of a hibernaculum. Incidental take resulting from the operation of wind energy facilities is not prohibited by this final 4(d) rule and a complete discussion of known impacts to the species may be found in the Wind Energy Facilities section above.

Finally, the Center provided suggested regulatory text for exemptions from prohibitions that included language for seasonal restrictions, clearing restrictions, mandatory measures for hibernacula protection (gate installation), water quality protection measures, and data collection and reporting requirements. We recognize the effort that has gone into the development of this alternative language. However, we have carefully considered the measures that are necessary for the protection of the species. Our final rule has been developed based on the Service's desire to implement protective measures that will make a meaningful impact on species conservation and recovery. As stated elsewhere in this document (see Determination section, below), we have provided regulatory flexibility while implementing protective measures where we have determined those measures to be necessary and advisable for conservation of the species.

Determination

Section 4(d) of the Act states that ''the Secretary shall issue such regulations as she deems 'necessary and advisable to provide for the conservation' '' of species listed as threatened species. Conservation is defined in the Act to mean ''to use and the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to [the Act] are no longer necessary.''

The courts have recognized the extent of the Secretary's discretion under this standard to develop rules that are appropriate for the conservation of a species. For example, the Secretary may find that it is necessary and advisable not to include a taking prohibition, or to include a limited taking prohibition. See Alsea Valley Alliance v Lautenbacher, 2007 U.S. Dist. Lexis 60203 (D. Or. 2007); Washington Environmental Council v. National Marine Fisheries Service, 2002 U.S. Dist. Lexis 5432 (W.D. Wash. 2002). In addition, as affirmed in State of Louisiana v. Verity, 853 F. 2d 322 (5th Cir. 1988), the rule need not address all the threats to the species. As noted by Congress when the Act was initially enacted, ''once an animal is on the threatened list, the Secretary has an almost infinite number of options available to him [her] with regard to the permitted activities for those species. [She] may, for example, permit taking, but not importation of such species,'' or she may choose to forbid both taking and importation but allow the transportation of such species, as long as the prohibitions, and exceptions to those prohibitions, will ''serve to conserve, protect, or restore the species concerned in accordance with the purposes of the Act'' (H.R. Rep. No. 412, 93rd Cong., 1st Sess. 1973).

Section 9 prohibitions make it illegal for any person subject to the jurisdiction of the United States to violate any regulation pertaining to any threatened species of fish or wildlife listed pursuant to section 4 of the Act and promulgated by the Secretary pursuant to authority provided by the Act. Under this final 4(d) rule, incidental take of the northern long-eared bat will not be prohibited outside the WNS zone. Incidental take also will not it be prohibited within the WNS zone, outside of hibernacula, provided that it occurs more than 0.25 miles (0.4 km) from a known hibernacula and does not result from an activity that cuts or destroys known occupied maternity roost trees, or any other trees within a 150-foot (45-m) radius from the maternity tree, during the pup season (June 1 through July 31).

Accordingly, we have determined that this provision is necessary and advisable for the conservation of the northern long-eared bat as explained below.

Although not fully protective of every individual, the conservation measures identified in this final rule help protect maternity colonies. This final species-specific rule under section 4(d) of the Act provides the flexibility for certain activities to occur that have not been the cause of the species' imperilment, while still promoting conservation of the species across its range.

The northern long-eared bat was listed as a threatened species under the Act, with an interim rule under section 4(d), on April 2, 2015 (80 FR 17974). At that time, the Service invited public comment on the interim 4(d) rule for 90 days, ending July 1, 2015. The Service had already received comments for 60 days on its proposed 4(d) rule (80 FR 2371; January 16, 2015). In total, the Service received approximately 40,500 comments on the proposed and interim 4(d) rules. For a complete discussion of the comments, as well as the Service's response to comments, see Summary of Comments and Recommendations on the Proposed and Interim 4(d) Rules, above.

Because the primary threat to the northern long-eared bat is a fungal disease known as WNS, the Service has tailored the final 4(d) rule to prohibit the take of northern long-eared bats from certain activities within areas where they are in decline, as a result of WNS, and within these areas we apply incidental take protection only to known, occupied maternity roost trees and known hibernacula. These protections will help to conserve the northern long-eared bat during its most vulnerable life stages (from birth to flight, or volancy) and during spring and fall swarming (near hibernacula).

In summary, this 4(d) rule is necessary and advisable to provide for the conservation of the northern long-eared bat because it provides for protection of known maternity roost trees and known hibernacula within the WNS zone. In addition, promulgation of this rule allows the conservation community to provide for species conservation where it can affect change, namely during the northern long-eared bat's most vulnerable life stages and where hibernation occurs. This final 4(d) rule allows the regulated public to manage lands in a manner that is lawful and compatible with species' survival, and it allows for protection of the species in a manner that the Secretary deems to be necessary and advisable for the conservation of the northern long-eared bat. By this rule, the Secretary deems that the prohibition of certain take, which is incidental to otherwise lawful activities that take bat habitat, is not necessary for the long-term survival of the species. Furthermore, she acknowledges the importance of addressing the threat of WNS as the primary measure to arrest and reverse the decline of the species. Nothing in this 4(d) rule affects other provisions of the Act, such as designation of critical habitat under section 4, recovery planning under section 4(f), and consultation requirements under section 7.

Required Determinations

Regulatory Planning and Review

(Executive Orders 12866 and 13563)

Executive Order 12866 provides that the Office of Information and Regulatory Affairs (OIRA) in the Office of Management and Budget will review all significant rules. OIRA has determined that this rule is not significant. Executive Order 13563 reaffirms the principles of E.O. 12866 while calling for improvements in the nation's regulatory system to promote predictability, to reduce uncertainty, and to use the best, most innovative, and least burdensome tools for achieving regulatory ends. The executive order directs agencies to consider regulatory approaches that reduce burdens and maintain flexibility and freedom of choice for the public where these approaches are relevant, feasible, and consistent with regulatory objectives. E.O. 13563 emphasizes further that regulations must be based on the best available science and that the rulemaking process must allow for public participation and an open exchange of ideas. We have developed this final 4(d) rule in a manner consistent with these requirements.

Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*)

Listing and status determinations under the Endangered Species Act of 1973, as amended (Act; 16 U.S.C. 1531 *et seq.*), and any prohibitions or protective measures afforded the species under the Act are exempt from the Regulatory Flexibility Act (RFA; 5 U.S.C. 601 *et seq.*, as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996). However, as this final 4(d) rule is being promulgated following the final listing of the northern long-eared bat, we evaluate whether the Regulatory Flexibility Act applies to this rulemaking.

Under the Regulatory Flexibility Act, whenever an agency must publish a notice of rulemaking for any proposed or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effects of the rule on small entities (small businesses, small organizations, and small government jurisdictions). However, no regulatory flexibility analysis is required if the head of the agency certifies the rule will not have a significant economic impact on a substantial number of small entities. SBREFA amended the RFA to require Federal agencies to provide a statement of the factual basis for certifying that the rule will not have a significant economic impact on a substantial number of small entities. Thus, for a regulatory flexibility analysis to be required, impacts must exceed a threshold for "significant impact" and a threshold for a "substantial number of small entities." See 5 U.S.C. 605(b). Based on the information that is available to us at this time, we certify that this rule will not have a significant economic impact on a substantial number of small entities. The following discussion explains our rationale.

On April 2, 2015 (80 FR 17974), we published the final determination to list the northern long-eared bat as a threatened species and an interim 4(d) rule. That rule became effective on May 4, 2015, and the interim 4(d) rule will remain in effect until this final rule becomes effective (see **DATES**, above). The interim 4(d) rule generally applies the prohibitions of 50 CFR 17.31 and 17.32 to the northern long-eared bat, which means that the interim rule, among other things, prohibits the purposeful take of northern long-eared bats throughout the species' range, but the interim rule includes exceptions to the purposeful take prohibition. The exceptions for purposeful take are: (1) In instances of removal of northern long-eared bats from human structures (if actions comply with all applicable State regulations); and (2) for authorized capture, handling, and related activities of northern long-eared bats by individuals permitted to conduct these same activities for other bat species until May 3, 2016. Under the interim rule, incidental take is not prohibited outside the WNS zone if the incidental take results from otherwise lawful activities. Inside the WNS zone, there are exceptions for incidental take for the following activities, subject to certain conditions: Implementation of forest management; maintenance and expansion of existing rights-of-way and transmission corridors; prairie management; minimal tree removal; and removal of hazardous trees for the protection of human life and property.

This final 4(d) rule does not generally apply the prohibitions of 50 CFR 17.31 to the northern long-eared bat. This rule continues to prohibit purposeful take of northern long-eared bats throughout the species' range, except in certain cases, including in instances of removal of northern long-eared bats from human structures and for authorized capture, handling, and related activities of northern long-eared bats by individuals permitted to conduct these same activities for other bat species until May 3, 2016. After May 3, 2016, a permit pursuant to section 10(a)(1)(A) of the Act is required for the capture and handling of northern long-eared bats. Under this rule, incidental take is still not prohibited outside the WNS zone. Within the WNS zone, incidental take is prohibited only if: (1) Actions result in the incidental take of northern long-eared bats in hibernacula; (2) actions result in the incidental take of northern long-eared bats by altering a known hibernaculum's entrance or interior environment if the alteration impairs an essential behavioral pattern, including sheltering northern long-eared bats; or (3) tree-removal activities result in the incidental take of northern long-eared bats when the activity either occurs within 0.25 mile (0.4 kilometer) of a known hibernaculum, or cuts or destroys known, occupied maternity roost trees or any other trees within a 150-foot (45-meter) radius from the maternity roost tree during the pup season (June 1 through July 31). This approach allows more flexibility to affected entities and individuals in conducting activities within the WNS zone. Under this rule, we individually set forth prohibitions on possession and other acts with unlawfully taken northern long-eared bats, and on import and export of northern long-eared bats. These prohibitions were included in the interim 4(d) through the general application of the prohibitions of 50 CFR 17.31 to the northern long-eared bat. Under this rule, take of the northern long-eared bat is also not prohibited for the following: Removal of hazardous trees for protection of human life and property; take in defense of life; and take by an employee or agent of the Service, of the National Marine Fisheries Service, or of a State conservation agency that is operating a conservation program pursuant to the terms of a cooperative agreement with the Service. Regarding these three exceptions, take in defense of life was not included in the interim 4(d) rule, but the other two exceptions were, either through the general application of 50 CFR 17.31 or through a specific exception included in the interim 4(d) rule. Therefore, this final 4(d) rule will result in less restrictive regulations under the Act than those set forth in the interim 4(d) rule.

We completed an analysis of the forested land area that may be impacted by this rulemaking. There are approximately 400,000,000 acres (161,874,256 ha) of forested habitat across the range of the northern long-eared bat, which includes 37 States and the District of Columbia. This rule may restrict land use activities on approximately 200,000 acres (80,937 ha). This area constitutes less than 0.05 percent of all forested habitat across the extensive range of the northern long-eared bat. Any impact in this very small portion of forested habitat is not expected to affect a substantial number of entities in any given sector, nor result in a significant economic impact on any given entity. For the above reasons, we certify that the final rule will not have a significant economic impact on a substantial number of small entities. Therefore, a final regulatory flexibility analysis is not required.

Energy Supply, Distribution, or Use—Executive Order 13211

Executive Order 13211 (Actions Concerning Regulations That Significantly Affect Energy Supply, Distribution, or Use) requires agencies to prepare Statements of Energy Effects when undertaking certain actions. For reasons discussed within this final rule, we believe that the rule will not have any effect on energy supplies, distribution, or use. Therefore, this action is not a significant energy action, and no Statement of Energy Effects is required.

Unfunded Mandates Reform Act

In accordance with the Unfunded Mandates Reform Act (2 U.S.C. 1501 *et seq.*), we make the following findings:

(1) This final rule will not produce a Federal mandate. In general, a Federal mandate is a provision in legislation, statute, or regulation that would impose an enforceable duty upon State, local, or Tribal governments, or the private sector, and includes both "Federal intergovernmental mandates" and "Federal private sector mandates." These terms are defined in 2 U.S.C. 658(5)–(7). "Federal intergovernmental mandate" includes a regulation that "would impose an enforceable duty upon State, local, or [T]ribal governments" with two exceptions. It excludes "a condition of Federal assistance." It also excludes "a duty arising from participation in a voluntary Federal program," unless the regulation "relates to a then-existing Federal program under which $500,000,000 or more is provided annually to State, local, and [T]ribal governments under entitlement authority," if the provision would "increase the stringency of conditions of assistance" or "place caps upon, or otherwise decrease, the Federal Government's responsibility to provide funding," and the State, local, or Tribal governments "lack authority" to adjust accordingly. At the time of enactment, these entitlement programs were: Medicaid; AFDC work programs; Child Nutrition; Food Stamps; Social Services Block Grants; Vocational Rehabilitation State Grants; Foster Care, Adoption Assistance, and Independent Living; Family Support Welfare Services; and Child Support Enforcement. "Federal private sector mandate" includes a regulation that "would impose an enforceable duty upon the private sector, except (i) a condition of Federal assistance or (ii) a duty arising from participation in a voluntary Federal program."

(2) This final 4(d) rule will result in less restrictive regulations under the Act, as it pertains to the northern long-eared bat, than would otherwise exist without a 4(d) rule or under the interim 4(d) rule. As a result, we do not believe that this rule will significantly or uniquely affect small government entities. Therefore, a Small Government Agency Plan is not required.

Takings

In accordance with Executive Order 12630, this final rule will not have significant takings implications. We have determined that the rule has no potential takings of private property implications as defined by this Executive Order because this 4(d) rule will result in less-restrictive regulations under the Act than would otherwise exist. A takings implication assessment is not required.

Federalism

In accordance with Executive Order 13132, this final 4(d) rule does not have significant Federalism effects. A federalism summary impact statement is not required. This rule will not have substantial direct effects on the State, on the relationship between the Federal Government and the State, or on the distribution of power and responsibilities among the various levels of government.

Civil Justice Reform

In accordance with Executive Order 12988, the Office of the Solicitor has determined that this final rule does not unduly burden the judicial system and meets the requirements of sections 3(a) and 3(b)(2) of the Order.

Paperwork Reduction Act of 1995 (44 U.S.C. 3501 et seq.)

This rule does not contain collections of information that require approval by the Office of Management and Budget (OMB) under the Paperwork Reduction Act. This rule will not impose recordkeeping or reporting requirements on State or local governments, individuals, businesses, or organizations. An agency may not conduct or sponsor and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number.

National Environmental Policy Act (42 U.S.C. 4321 et seq.)

We have prepared a final environmental assessment, as defined under the authority of the National Environmental Policy Act of 1969. For information on how to obtain a copy of the final environmental assessment, see **ADDRESSES**, above. The final environmental assessment will also be available on the Internet at *http://www.regulations.gov* and at *http://www.fws.gov/midwest/Endangered.*

Government-to-Government Relationship With Tribes

In accordance with the President's memorandum of April 29, 1994 (Government-to-Government Relations with Native American Tribal Governments; 59 FR 22951), Executive Order 13175 (Consultation and Coordination With Indian Tribal Governments), and the Department of the Interior's manual at 512 DM 2, we readily acknowledge our responsibility to communicate meaningfully with recognized Federal Tribes on a government-to-government basis. In accordance with Secretarial Order 3206 of June 5, 1997 (American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act), we readily acknowledge our responsibilities to work directly with tribes in developing programs for healthy ecosystems, to acknowledge that tribal lands are not subject to the same controls as Federal public lands, to remain sensitive to Indian culture, and to make information available to tribes.

In October 2013, Tribes and multi-tribal organizations were sent letters inviting them to begin consultation and coordination with the service on the proposal to list the northern long-eared bat. In August 2014, several Tribes and multi-tribal organizations were sent an additional letter regarding the Service's intent to extend the deadline for making a final listing determination by 6 months. A conference call was also held with Tribes to explain the listing process and discuss any concerns. Following publication of the proposed rule, the Service established three interagency teams (biology of the northern long-eared bat, non-WNS threats, and conservation measures) to ensure that States, Tribes, and other Federal agencies were able to provide input into various aspects of the listing rule and potential conservation measures for the species. Invitations for inclusion in these teams were sent to Tribes within the range of the northern long-eared bat and a few tribal representatives participated on those teams. Two additional conference calls (in January and March 2015) were held with Tribes to outline the proposed species-specific 4(d) rule and to answer questions. Through this coordination, some Tribal representatives expressed concern about how listing the northern long-eared bat may impact forestry practices, housing development programs, and other activities on Tribal lands.

References Cited

A complete list of references cited in this document is available on the Internet at *http://www.regulations.gov* and upon request from the Twin Cities Ecological Services Field Office (see **FOR FURTHER INFORMATION CONTACT**).

Authors

The primary authors of this document are the staff members of the Midwest Region of the U.S. Fish and Wildlife Service.

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, Transportation.

Regulation Promulgation

Accordingly, we amend part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, as follows:

PART 17—ENDANGERED AND THREATENED WILDLIFE AND PLANTS

■ 1. The authority citation for part 17 continues to read as follows:

Authority: 16 U.S.C. 1361–1407; 1531–1544; and 4201–4245, unless otherwise noted.

■ 2. Amend § 17.40 by revising paragraph (o) to read as follows:

§ 17.40 Special rules—mammals.

* * * * *

(o) Northern long-eared bat (*Myotis septentrionalis*). The provisions of this rule are based upon the occurrence of white-nose syndrome (WNS), a disease affecting many U.S. bat populations. The term ''WNS zone'' identifies the set of counties within the range of the northern long-eared bat within 150 miles of the boundaries of U.S. counties or Canadian districts where the fungus *Pseudogymnoascus destructans* (*Pd*) or WNS has been detected. For current information regarding the WNS zone, contact your local Service ecological services field office. Field office contact information may be obtained from the Service regional offices, the addresses of which are listed in 50 CFR 2.2.

(1) *Prohibitions.* The following prohibitions apply to the northern long-eared bat:

(i) Purposeful take of northern long-eared bat, including capture, handling, or other activities.

(ii) Within the WNS zone:

(A) Actions that result in the incidental take of northern long-eared bats in known hibernacula.

(B) Actions that result in the incidental take of northern long-eared bats by altering a known hibernaculum's entrance or interior environment if it impairs an essential behavioral pattern, including sheltering northern long-eared bats.

(C) Tree-removal activities that result in the incidental take of northern long-eared bats when the activity:

(*1*) Occurs within 0.25 mile (0.4 kilometer) of a known hibernaculum; or

(*2*) Cuts or destroys known occupied maternity roost trees, or any other trees within a 150-foot (45-meter) radius from the maternity roost tree, during the pup season (June 1 through July 31).

(iii) Possession and other acts with unlawfully taken northern long-eared bats. It is unlawful to possess, sell, deliver, carry, transport, or ship, by any means whatsoever, any northern long-eared bat that was taken in violation of this section or State laws.

(iv) Import and export.

(2) *Exceptions from prohibitions.* (i) Any person may take a northern long-eared bat in defense of his own life or the lives of others, including for public health monitoring purposes.

(ii) Any person may take a northern long-eared bat that results from the removal of hazardous trees for the protection of human life and property.

(iii) Any person may take a northern long-eared bat by removing it from human structures, but only if the actions comply with all applicable State regulations.

(iv) Purposeful take that results from actions relating to capture, handling, and related activities for northern long-eared bats by individuals permitted to conduct these same activities for other species of bat until May 3, 2016.

(v) All of the provisions of § 17.32 apply to the northern long-eared bat.

(vi) Any employee or agent of the Service, of the National Marine Fisheries Service, or of a State conservation agency that is operating a conservation program pursuant to the terms of a cooperative agreement with the Service in accordance with section 6(c) of the Act, who is designated by his agency for such purposes, may, when acting in the course of his official duties, take northern long-eared bats covered by an approved cooperative agreement to carry out conservation programs.

* * * * *

Dated: January 7, 2016.

Karen Hyun,

Acting Principal Deputy Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 2016–00617 Filed 1–13–16; 8:45 am]

BILLING CODE 4333–15–P