APPENDIX E-24 Whitewater Recreation Flow Study Report

Gile Flowage Storage Project
FERC No. 15055

Study Plan Report

Whitewater Recreation Flow Study

Prepared for

Northern States Power Company

Prepared by

Mead & Hunt

meadhunt.com

September 2022

Table of Contents

Tables

Figures

Appendix

1. Introduction

Northern States Power Company, a Wisconsin corporation (NSPW or Applicant), owns and operates the existing Gile Flowage Storage Project (Gile Flowage or Project), which is located on the West Fork Montreal River (West Fork) in Iron County, Wisconsin. The purpose of the Project is to augment flow in the West Fork of the Montreal River during low flow periods for hydroelectric generation at two downstream projects, the Saxon Falls Hydroelectric Project (Saxon Falls) and the Superior Falls Hydroelectric Project (Superior Falls). Both downstream projects are owned and operated by the Applicant and are licensed by the Federal Energy Regulatory Commission (FERC or Commission). The Applicant is currently seeking an original license from the Commission. To obtain a License, the Applicant must submit a Final License Application (FLA) to the Commission no later than August 18, 2023. The FLA, in part, must include a Whitewater Recreation Flow Study (Whitewater Study) to evaluate the effects of flow releases from the Project on whitewater opportunities on the West Fork downstream of the Gile Dam to Kimball Town Park.

On January 19, 2021, FERC issued Scoping Document 1 and requested stakeholders provide comments on the Pre-Licensing Application (PAD) and study requests within 60 days. During the 60-day comment period, the Applicant received comments and study requests relating to a whitewater recreation flow study from American Whitewater (AW), Friends of the Gile Flowage (FOG), and the National Park Service (NPS). AW requested a controlled flow study be conducted by evaluating at least three different river flows between 400 and 1,000 cubic feet per second (cfs) on the West Fork from the Gile Dam downstream to the US Highway 2 bridge (US Hwy 2). FOG requested silent sport recreation, including whitewater kayaking, be one of the recreation activities included in their request for a recreation study. NPS requested a recreation flow study be conducted on the West Fork from below the Gile Falls to US Hwy 2 to determine which flows are acceptable to boaters. Stakeholder requests, if applicable, were incorporated into a Proposed Study Plan (PSP).

On April 30, 2021, the Applicant filed a PSP with the Commission in support of its intent to license the Project. A supplement to the PSP was filed on May 3, 2021. The PSP included nine studies, one of which was a Whitewater Study designed to determine optimal flows for whitewater recreation downstream of the Gile Dam on the West Fork. The Applicant held an initial study plan meeting on May 20, 2021, to discuss the PSP with stakeholders. Comments on the Whitewater Study, as included in the PSP, were filed by AW, FOG, and NPS.

On August 30, 2021, the Applicant filed a Revised Study Plan (RSP) with the Commission. The RSP included revisions to five of the nine studies included in the PSP, and the addition of a project operation model. The Whitewater Study filed in the PSP was revised in the RSP to address comments on methodology, project schedule, and deliverables based on applicable stakeholder input.

On September 24, 2021, the Commission issued a Study Plan Determination (SPD) for the Project for the ten studies included in the RSP. The Whitewater Study was approved with modifications and must include a Level 1, Level 2, and Level 3 assessment based on the Whittaker method.[1]

[1] Whittaker method is detailed in Whittaker, D., B. Shelby, J. Gangemi. 2005. Flows and Recreation: A Guide to Studies for River Professionals. Whittaker, Shelby, & Gangemi, and the Hydropower Reform Coalition.

2. Study Goals and Objectives

The goal of the Whitewater Study was to evaluate the effects of incremental flow releases from the Project on the availability of whitewater boating opportunities on the West Fork, beginning below the Gile Dam and extending downstream.

The Whitewater Study objectives are as follows:

- Evaluate the incremental flow releases to determine optimal whitewater boating opportunities for different skill sets.
- Based upon updated flow duration curves, determine the number of days per year when river flows equal or exceed optimal whitewater flows; assess the feasibility of potential recreational flow releases.
- Quantify the effect on downstream generation and the impact on Project water levels for any four-hour period of proposed flow releases, adjusted for the month in which flow releases could occur.
- Develop an estimate of potential whitewater boating use if scheduled releases are provided.
- Identify competing recreational needs or environmental concerns associated with scheduled releases up to four hours in length.
- Verify the difficulty rating for each reach at varying flows as listed on the AW website.

3. Study Area

Initially, the Whitewater Study area was to include a stretch of the West Fork from the Gile Dam downstream to US Hwy 2 (NSPW, 2021a). This stretch is identified as a class IV whitewater boating reach (AW, 2007). However, a review of property ownership at the US Hwy 2 crossing revealed this area is privately owned and public access to the river would be dependent upon landowner permission.[2] Therefore, the study area was modified to extend from the Gile Dam downstream to Kimball Town Park, which provides public access to the river. Kimball Town Park is located approximately 0.84 miles upstream of US Hwy 2 (NSPW, 2021b). During the Whitewater Study, participants were offered the opportunity to continue downstream to US Hwy 2. However, after a brief discussion, the boaters declined this option and chose to use the additional time and their energy to repeat the run of Kimball Falls at Kimball Town Park several times.

The stretch of river from the Gile Dam downstream to Kimball Town Park was divided into three river reaches for study purposes. Study Reach 1 extended approximately 2.07 miles from the Gile Dam to the South Drive bridge. Study Reach 2 extended approximately 2.62 miles from South Drive bridge to the Center Drive bridge. Study Reach 3 extended approximately 1.15 miles from Center Drive bridge to Kimball Town Park (NSPW, 2021b). A map of the study area is shown in **Appendix A**.

[2] https://www.sco.wisc.edu/parcels/data-county/, accessed March 10, 2022.

4. Study Methodology

Per the Commission's SPD, the Whitewater Study methodology was modeled after the Whittaker method and included a Level 1, Level 2, and Level 3 assessment (Whittaker, D., B. Shelby, J. Gangemi, 2005).[3]

4.1 Level 1 Assessment – Desktop Analysis

According to the Whittaker method, a Level 1 assessment is "useful for developing information about existing or potential recreation opportunities, facilities, physical characteristics of the river, and recreation-relevant hydrology." A desktop analysis can include a combination of literature reviews, hydrological assessment, and/or interviews with recreationists and stakeholders to gain local knowledge about the river, whitewater recreation opportunities, and known flow effects (Whittaker, D., B. Shelby, J. Gangemi, 2005).

The Level 1 assessment included analysis of whitewater recreation on the following reaches:

- West Fork at Gile Dam to its confluence with the Montreal River
- Montreal River from its confluence to Saxon Falls

The West Fork was further divided into the following two reaches for analysis purposes:

- Gile Dam to US Hwy 2
- US Hwy 2 to its confluence with the Montreal River

4.1.1 Literature Review of Whitewater Recreation Resources

An online literature review for whitewater recreation resources was conducted in March 2022. The review focused on the Montreal River, West Fork Montreal River, and Gile Flowage. State and county websites were reviewed, as well as paddle sport and local recreation websites.

Sources with information relevant to whitewater rafting included the following:

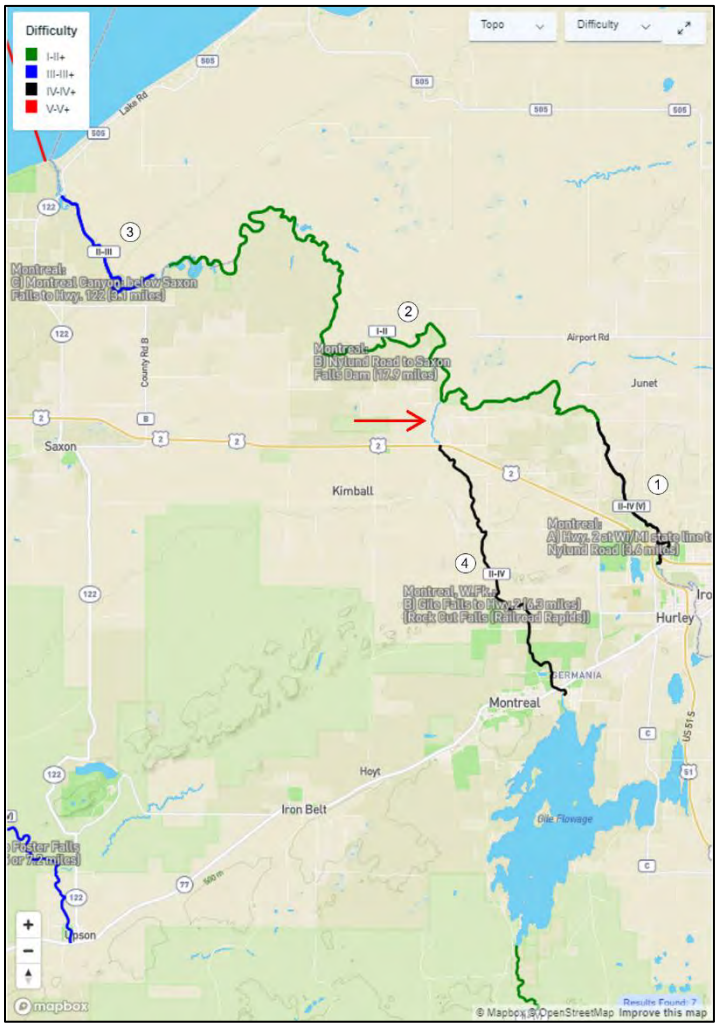
- American Whitewater
- Western Upper Peninsula Visitor's Bureau
- Outdoor Michigan
- Wisconsin Trail Guide
- Iron County Economic Development
- Midwest River Inventory
- AdamMartin.SPACE
- Youtube (online videos)

4.1.1.1 American Whitewater

The American Whitewater website was reviewed for information pertaining to the Montreal River, West Fork Montreal River, and Gile Flowage. The website provides an interactive map that allows the user to search for rivers by name or to navigate to a specific area. A search specific to the study area was conducted on March 9, 2022 with the results shown in **Figure 4.1.1.1-1**.

[3] Federal Energy Regulatory Commission *Study Plan Determination for the Gile Flowage Project*. September 24, 2021 (Appendix B).

Figure 4.1.1.1-1 Whitewater Rivers in the Vicinity of the Gile Flowage



The whitewater rivers and difficulty classifications, as defined by American Whitewater, in the vicinity of the Gile Flowage include:

1. Montreal, US Hwy 2 at WI/MI state line to Nylund Road (3.6 miles), Difficulty II-IV(V) (AW, 2022c).
2. Montreal, Nylund Road to Saxon Falls Dam (17.9 miles), Difficulty I-II (AW, 2022d).
3. Montreal, Montreal Canyon: below Saxon Falls to Hwy 122 (3.1 miles), Difficulty II-III (AW, 2022e).
4. Montreal, W.Fk., Gile Falls to US Hwy2 (6.3 miles), Difficulty II-IV (AW, 2022f).

It should be noted that the American Whitewater interactive map does not indicate a whitewater river or difficulty classification for that reach of the West Fork Montreal River downstream of US Hwy 2 to the confluence with the Montreal River (see red arrow in map).

The American Whitewater website includes a description of the West Fork Montreal River and Montreal River, as well as put-in locations with coordinates, alternate access/egress locations, and features such as channel widths, falls, drops, holes, and rapids. Additional information from the American Whitewater website relative to the Level 1 Assessment is provided in **Appendix B** and includes a map of additional class I/II+ whitewater recreation in the area. Two opportunities are located within the same watershed boundary as the Gile Flowage and include the Montreal River from Nylund Road to Saxon Falls Dam (includes a stretch upstream of the confluence with the West Fork), and West Fork south of Gile Flowage from an unnamed logging road to Spring Camp Road. Additional opportunities in the area include two stretches on the Bad River and one on Marengo River, both are approximately 30 miles west of Gile Flowage; one stretch on the Turtle River, approximately 25 miles south; and one stretch on each the Black River and Jackson Creek, approximately 15 to 20 miles east.

The American Whitewater website also provides a link to download a 2007 flow study prepared by Evan Stafford and Thomas O'Keefe.[4] The study, titled "West branch Montreal River Internet Flow Study October 2007", analyzes the acceptable inflow for whitewater recreation on the West Fork through an

[4] https://www.americanwhitewater.org/content/Document/view/id/243/, accessed March 1, 2022.

online survey targeted to individuals who may be interested in scheduled flow releases for whitewater recreation. The survey did not collect data for individual skill level, whitewater experience, preferred craft, or familiarity with the West Branch. The online survey was conducted from spring of 2006 to spring of 2007. The study does not indicate how many individuals participated in the survey or the skill level of those surveyed. Based on the individuals' responses, the study concluded that acceptable flows are between 400 and 1,000 cfs, with 600 cfs being acceptable to "the greatest variety of river users" (AW, 2007). The complete study is included in **Appendix B**.

4.1.1.2 Western Upper Peninsula Visitor's Bureau

The Western Upper Peninsula Visitor's Bureau website was reviewed for outdoor recreation opportunities in the area, including kayaking and canoeing.[5] [6] The website offers the opportunity to book a guide for various locations, including the mouth of the Montreal River, Superior Falls, and whitewater kayaking. The website also provides information on Whitecap Kayak, a guide company that provides trips on Lake Superior and along the Upper Peninsula, as well as whitewater kayaking lessons.[7] The Western Upper Peninsula Visitor's Bureau website can also be accessed from the Gogebic County Forestry and Parks Commission website (area recreation).[8]

4.1.1.3 Outdoor Michigan

The Outdoor Michigan website was reviewed for outdoor activities throughout the state and includes public and non-profit locations. The user can search for a location based on entering a region, county, township, city, or owner. The website also includes a list of nine activities and 34 features to choose from, one of which is "River".[9] This river feature provides an extensive list of Michigan rivers, including the Montreal River.[10] Recreation activities provided for the Montreal River include the Saxon Falls and Superior Falls waterfalls; however, the website does not include any information on whitewater recreation.

4.1.1.4 Wisconsin Trail Guide

The Wisconsin Trail Guide website was reviewed for outdoor recreation opportunities in the area and included a search option for Paddle Trails, which includes 20 rivers to choose from, including the Montreal River Canyon run of the Montreal River (downstream of Saxon Falls).[11] The website includes general information and a review of the run, as well as links to "Paddlers' Notes", location map, and GPS track and waypoints. Additional information from the Wisconsin Trail Guide website relative to Montreal River is provided in **Appendix C**.

4.1.1.5 Iron County, Wisconsin Economic Development

The Iron County, Wisconsin Economic Development website was reviewed for recreation opportunities in the county, including paddling opportunities on the Montreal River.[12] [13] The website indicates this run, called the Montreal River Canyon, is for experts; includes Class V rapids, dams, and inaccessible canyons; and is

[5] https://www.explorewesternup.com/, accessed March 15, 2022.
[6] https://www.explorewesternup.com/outdoor-recreation/kayakingcanoeing/, accessed March 15, 2022.
[7] https://www.whitecapkayak.com/, accessed March 15, 2022.
[8] https://www.gogebicforestryandparks.com/area-recreation, accessed March 15, 2022.
[9] https://outdoormichigan.org/pages/home?fid=2&act=Water+Trail, accessed March 9, 2022.
[10] https://outdoormichigan.org/feature/11959, accessed March 9, 2022.
[11] https://wisconsintrailguide.com/paddle/montreal-river.html, accessed March 14, 2022.
[12] https://ironcountywi.com/recreation/, accessed March 14, 2022.
[13] https://ironcountywi.com/recreation/canoe-trips/montreal-river/, accessed March 14, 2022

located on private property with no egress options once in the canyon. Additional information from the Iron County website relative to Montreal River is provided in **Appendix D**.

4.1.1.6 Midwest River Inventory

An archived website was discovered during the online review for whitewater recreation resources. The archived information includes a pictorial review of the whitewater recreation features starting at Gile Falls and continuing downstream to US Hwy 2 along the West Fork, as well as the Montreal Canyon along the Montreal River. The review states whitewater recreation starts at the Gile Falls with features that can push watercraft tight to river-right. The author states the flows shown in the pictures are "good boatable levels"; however, the level of flow is not defined. The review continues downstream and describes Rock Cut Falls as a class III-IV with a "great, long stretch of waves and holes" that provide continuous action and Kimball Falls as the final major run on the West Fork with a "V-shaped hole at the pool below" the falls. The author states boaters can take-out at Kimball Falls Park or continue downstream for about one mile to US Hwy 2. This final stretch is described as a class II-II+ with small waves. The Montreal Canyon review suggests a minimum flow of about 700 cfs provides good whitewater recreation opportunities, those opportunities are improved at 1,400 to 1,700 cfs.[14] The pictorial review is provided in **Appendix E**.

4.1.1.7 AdamMartin.SPACE

A photo blog, AdamMartin.SPACE, was discovered during the online review for whitewater recreation resources.[15] The photo blog provides photographs and descriptions of the author's outdoor experiences and includes information about:

- Gile Falls (https://adammartin.space/2019-gile-falls/)
- Rock Cut Falls (https://adammartin.space/?s=Rock+Cut+Falls)
- Kimball Falls (https://adammartin.space/2018-kimball-falls/)
- Saxon Falls (https://adammartin.space/2018-saxon-falls/)
- Superior Falls (https://adammartin.space/2018-superior-falls/)

The contents of the photo blog do not focus specifically on whitewater recreation; however, they do provide access information (kayak), location coordinates, and river flow pictures and videos. The contents of each link are provided in **Appendix F**.

4.1.1.8 Online Video Review

An online video search was conducted on March 14, 2022 to locate documentation about whitewater recreation flow rates for the West Fork and Montreal Rivers. Numerous videos posted to youtube.com were identified and are linked below with additional information provided by the video owner.

- west fork montreal rafting - YouTube
  Posted on June 7, 2013 by Duck Wild Producktions.
  Rock Cut Falls area with a description of "some rafting from the west fork of the Montreal river in Hurley Wisconsin at 2200 cfs."
  Snow on ground, lists flow as 2,200 cfs, 3-/4+, and water craft includes a Hyside Paddle Cat.

[14] https://www.oocities.org/midwestrivers/F-WI-MONTREAL.html, accessed March 9, 2022.
[15] https://adammartin.space, accessed March 14, 2022.

- West Fork Montreal Extreme Bucket Boating - YouTube
  Posted on May 12, 2013 by Duck Wild Producktions.
  Center Dr (?) to Kimball Town Park.
  Watercraft includes a Hyside Paddle Cat.

- Lazy River West Fork of Montreal - YouTube
  Posted on August 15, 2021 by Scotty Bartelt.
  West Fork Montreal – unknown specific location.
  Video includes a raft.

- Wisconsin Boating - Montreal, Tyler Forks, and Bad Rivers - YouTube
  Posted on June 6, 2013 by mjogdahl.
  West Fork Montreal, as well as Tyler Forks and Bad Rivers.
  Video includes a description of 1,750 cfs on the West Fork Montreal.
  West Fork Montreal video footage is from 0:00 to 2:41; 0:52 surfing at Elephant's Ear is noted.

- Montreal River Canyon Whitewater Rafting - YouTube
  Posted October 2, 2016 by ringo999999.
  Montreal Canyon below Saxon Falls Dam to US Hwy 122.
  Description includes "The gauge hotline is down from recent storms however we met a dam operator after our paddle and he said this level was around 600 cfs. Can't wait for 1600 and then some."
  Video includes a raft, canoe, and kayak.

- Montreal River Paddle - YouTube
  Posted May 24, 2015 by Ian Shackleford.
  Description includes "Kayaking the Montreal River through Ironwood (MI) and Hurley (WI). April 18, 2015. Video by Nathan Borth, wearing a GoPro camera. Volunteers from Whitecap Kayak paddled the river, collecting garbage and marking locations for future river cleanups. The Montreal River is the border between Wisconsin and Michigan's Upper Peninsula. They started near Norrie Park and ended at Peterson Falls (although the video ends before they reached the waterfall)."

- Montreal River Canyon open boat trip - YouTube
  Posted October 26, 2014 by Wisconsinred.
  Video shows paddlers using the Saxon Falls staircase to access the Montreal River.
  Watercraft includes a canoe, flow not listed.

- Superior Falls at High Flows from the Air - YouTube
  Posted April 10, 2019 by ringo999999.
  Description includes "Superior Falls is a waterfall on the Montreal River located on the border of Michigan and Wisconsin. This video was captured on April 10th, 2019 at high flows after a weekend of warm temps and rain."

- First and Second Drops of Superior Falls, Montreal River - YouTube
  Posted Oct 3, 2016 by ringo999999.
  Description includes "Video was shot from the Michigan side of Superior Falls on October 1st, 2016."
  No boating occurred.

- Third and Final Drop of Superior Falls, Montreal River - YouTube
  Posted Oct 3, 2016 by ringo999999.
  Description includes "Video was shot from the Michigan side of Superior Falls on October 1st, 2016."
  No boating occurred.
  Poster commented "Kinda low water right now but with a bit more water there is certainly a line throughout these 3 drops. We walked down to right on the edge of the falls and then some, so cool to feel the flow beneath your feet."

- Superior Falls on Montreal River - Michigan/Wisconsin border - YouTube
  Posted August 19, 2012 by Jonathan Katje.
  Description includes "The Xcel Energy group [sic] has opened a viewing area for these falls to the public, it is a semi-challenging hike but also gives a great view of the cliffs at the Lake Super [sic] rivermouth." Video is from the bottom of Superior Falls.
  Watercraft includes kayaks.

4.1.2 Hydrological Assessment

A hydrological assessment included an online source review for relevant hydrology data which was conducted in March 2022. Online sources included the United States Geological Survey (USGS) National Water Information System (NWIS) and USGS Wisconsin Water Science Center websites.

4.1.2.1 USGS NWIS Gage Data Review

The following USGS Gages were identified along the West Fork and Montreal in the Gile Project vicinity:

- USGS 04028987 WEST FORK MONTREAL RIVER @ CENTER DR NR HURLEY, WI
- USGS 04029000 WEST BRANCH MONTREAL RIVER AT GILE, WI
- USGS 04029500 WEST BRANCH MONTREAL RIVER NEAR KIMBALL, WI
- USGS 04028500 MONTREAL RIVER NEAR KIMBALL, WI
- USGS 04029550 MONTREAL RIVER 6 MI NORTHWEST OF IRONWOOD, MI
- USGS 04029990 MONTREAL RIVER AT SAXON FALLS NEAR SAXON, WI

Each USGS gage linked above includes information on available data, as follows:

- USGS 04028987 – no data is available
- USGS 04029000 – data available from 04-25-1918 to 09-29-1947 (upstream of Gile Dam)
- USGS 04029500 – data available from 06-26-1924 to 12-07-1925 (downstream of US Hwy 2)
- USGS 04028500 – data available from 06-26-1924 to 12-07-1925 (upstream of confluence)
- USGS 04029550 – data available from 07-27-1967 to 07-27-1967 (downstream of confluence)
- USGS 04029990 – data available from 10-01-1986 to 09-29-2017 (Saxon Falls)[16]

The USGS NWIS website states these six gages are maintained by the USGS Wisconsin Water Science Center. The USGS Wisconsin Water Science Center website provides a link to the National Water Information System (NWIS) Mapper, which was accessed to determine the locations of the five USGS gages with available data as they relate to the study area (shown in parentheses in the list above). [17] [18]

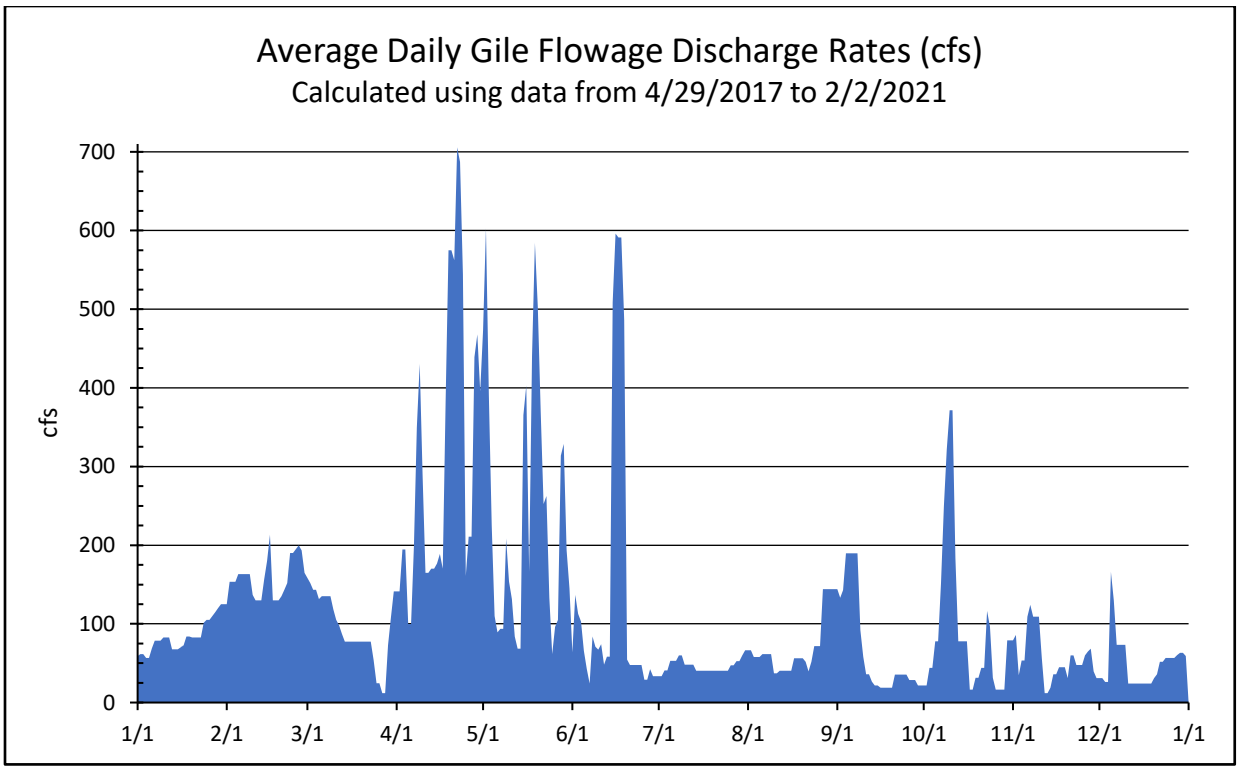
[16] Daily discharge values for this gage were provided to USGS by NSPW, no physical gage at this location.
[17] https://www.usgs.gov/centers/upper-midwest-water-science-center, accessed March 16, 2022.
[18] https://maps.waterdata.usgs.gov/mapper/index.html, accessed March 16, 2022.

Additional information about the data available on the USGS NWIS and USGS Wisconsin Water Science Center websites is provided in **Appendix G**.

4.1.2.2 Representative Gile Flowage Discharge Rate

The average daily discharge rate from the Gile Dam downstream to the West Fork is shown in the graph presented in **Figure 4.1.2.2-1**. The data used to calculate the average daily discharge was provided in Appendix P of the PSP (NSPW, 2021a). Data were available from April 29, 2017 through February 2, 2021, or 1,374 days. The highest daily discharge rate recorded during this time frame was 2,300 cfs and occurred on each of three consecutive days from June 16-18, 2018. The highest average daily discharge rate was calculated at 706 cfs on April 22 for the period of 2017-2021. The lowest daily discharge rate recorded was 12 cfs, which occurred on 498 days or approximately 36% of the time during this period. The lowest average daily discharge rate was also 12 cfs for the period of 2017-2021. It should be noted that a minimum flow of 10 cfs has historically been passed downstream of the Gile Dam in accordance with an agreement with the Village of Montreal (NSPW, 2020).

Figure 4.1.2.2-1 Average Daily Gile Flowage Discharge Rates



4.1.3 Interviews and Local Knowledge

On May 9, 2022, NSPW began coordinating with Jake Ring, a local boating enthusiast who routinely boats in this area, to identify boaters willing to participate in the June 11, 2022, Whitewater Study. Jake identified 17 boaters to participate in the study.

On May 24, 2022, NSPW notified AW and NPS via email of the Whitewater Study. A portion of the email invited each agency to submit boater recommendations for the study. Mr. Thomas O'Keefe, Pacific Northwest Stewardship Director with AW, responded via email on June 8, 2022, indicating he would not

be able to attend the study. Mr. O'Keefe stated his correspondence with Jake Ring indicated a sufficient number of participants are expected; therefore, he would not promote the study to any additional qualified boaters. Ms. Lilian Jonas, consultant with the NPS, responded via email on June 9, 2022 indicating the NPS will not be able to attend the study. The NPS did not identify any additional boater recommendations.

On May 24, 2022, NSPW notified Friends of the Gile Flowage (FOG) via email of the Whitewater Study. Cathy Techtmann, FOG President, indicated the Whitewater Study information would be shared with FOG during a May 28, 2022 annual meeting and also via email to FOG members. Correspondence with Jake Ring, AW, NPS, and FOG is included in **Appendix H**.

A three-part questionnaire was developed to gather information about existing and potential whitewater recreation opportunities in the vicinity of the Gile Flowage. The first part of the questionnaire addressed the reach along the West Fork from the Gile Dam to US Hwy 2 and US Hwy 2 to the Montreal River confluence, the second addressed the reach along the Montreal River from its confluence with the West Fork to Saxon Falls, and the third addressed boating opportunities in the area. This questionnaire was distributed to Jake Ring and all 17 boaters identified to participate in the Whitewater Study. A summary of boater responses is provided in the sections below. A copy of the questionnaire and participant responses are included in **Appendix I**.

4.1.3.1 West Fork

Boaters were asked to provide information about their use of the West Fork from the Gile Dam to US Hwy 2 and US Hwy 2 to the Montreal River confluence; access to these reaches; flow ranges, watercraft, and boater experience level suitable for the US Hwy 2 to the Montreal River confluence reach; and what characteristics make these reaches suitable or unsuitable for whitewater recreation. Boaters were also given the opportunity to provide any additional comments regarding the West Fork.

4.1.3.1.1 Gile Dam to US Hwy 2

Five of the 18 boaters stated they previously boated this reach of the West Fork. The boaters indicated they access this reach via County D to the road upstream of Rock Cut Falls (potentially South Drive) and below the Gile Dam. Two of the five boated this reach once, the remaining three stated they boat this reach when flows are high enough, which is typically early spring.

Boaters were asked what characteristics make this reach suitable or unsuitable for whitewater recreation. Five boaters provided comments on suitable characteristics, which included the following:

- Very rocky with high rock walls through rock cut, good gradient, and variety of rapids
- Scenic, pretty continuous, fun but not scary
- Continuous whitewater sections for everyone
- Gile Falls, cool features, rapid under railroad bridge was awesome
- Gile Falls

One boater noted log jams as an unsuitable characteristic. Two boaters provided additional comments, which included requesting an online gage that displays current flows and another stating they appreciate this stretch of the river.

4.1.3.1.2 US Hwy 2 to the Montreal River Confluence

None of the 18 boaters have used the reach from US Hwy 2 to the confluence with the Montreal River for whitewater recreation due to lack of suitable access; therefore, no boater input was provided for the suitability of flow ranges, watercraft, and boater experience level along this reach. Boaters were asked where they would recommend locating an acceptable access point along this reach. Five boaters stated they did not know where to locate an acceptable access point.

Although no boaters had previously used this reach, they were asked what characteristics make this reach suitable or unsuitable for whitewater recreation. No suitable characteristics were identified. One boater noted downed trees are an unsuitable characteristic, while another stated there is not a lot of documentation on this reach.

4.1.3.2 Montreal River

Boaters were asked to provide information about their use of the Montreal River from its confluence with the West Fork to the Saxon Falls Project; access to this reach; flow ranges, watercraft, and boater experience level suitable for this reach; and what characteristics make this reach suitable or unsuitable for whitewater recreation.

One of the 18 boaters stated they previously boated this reach of the Montreal River in 2019; however, the recreation activity was not related to whitewater boating. The boater accessed the Montreal River from Nylund Road (46.499585°, -90.215184°), although this location is not ideal. The location is approximately 4.5 miles upstream of the confluence and the boater encountered four log jams prior to reaching the confluence. The boater indicated the nearby railroad (Canada National) may be a more suitable access point; however, all surrounding property is privately owned. The boater stated this reach does not provide whitewater and therefore is not suitable for whitewater recreation. This stretch is suitable for a boater with novice experience level using a float craft such as a canoe or kayak; however, the log jams may require more experience due to portage requirements.

4.1.3.3 Boating Opportunities in the Area

Boaters were asked to provide information on additional Class I/II boating opportunities within or in the vicinity of the watershed boundary that includes the West Fork and Montreal Rivers. Six of the 18 boaters provided additional information.

Two boaters indicated they were not familiar with any additional Class I/II boating opportunities in the area and one boater suggested looking on the American Whitewater webpage for additional information. Two boaters referred to the Montreal Canyon below Saxon Falls. This stretch of the Montreal River is a Class II/III according to American Whitewater (AW, 2022a).

One boater commented the rivers in northern Wisconsin and the Upper Peninsula are rain dependent. This boater also provided four additional boating opportunities in the area, which included the following:

- Montreal Water Trail, Norrie Park to Cemetery: 4 miles, Class I, any flow, some logs
- Montreal Canyon: poor access, flows between 600-2,000+ cfs
- Black River from Blackjack to Hedberg:[19] 5 miles, Class I, flows between 150-800(?)+ cfs
- Presque Isle: some of this reach is flat

[19] Class I/II according to American Whitewater (AW, 2022b).

4.1.4 Level 1 Assessment Summary

The Level 1 Assessment included an online review and boater questionnaire to gather existing and accessible whitewater recreation information for the West Fork and Montreal River, public access locations and constraints, physical attributes of boating reaches, and hydrology for the West Fork from the Gile Dam downstream to its confluence with the Montreal River and the Montreal River from the confluence to Saxon Falls.

4.1.4.1 Literature Review Summary

The online review identified existing information for the West Fork from Gile Dam to US Hwy 2, the Montreal Canyon (downstream of Saxon Falls, outside of assessment area), and Superior Falls (outside of assessment area). The AW website was the only source identified that provided information on the West Fork downstream from US Hwy 2 to the confluence of the Montreal River and the Montreal River downstream from the confluence to Saxon Falls.

The AW website describes the West Fork from Gile Falls to US Hwy 2 as “Tough to catch water, but contains one of the longest IV- rapids in the state.” AW states the run is divided into two sections which include Gile Falls (put-in) to Kimball Town Park (take-out) and Kimball Town Park (put-in) to just downstream of US Hwy 2 (take-out). The Kimball Town Park to US Hwy 2 run is approximately 1.5 miles of class II-III rapids followed by 1.0 mile of flat water (AW, 2022f).

The AW website describes the Montreal River from Nylund Road to Saxon Falls Dam as a 16.8 mile, class I-II stretch. The Nylund Road put-in “is mostly for continuity with the upper section. Virtually throughout this reach, you'll find low-grade, read-and-run rapids, interspersing flat/flowing water.” AW recommends using the West Fork US Hwy 2 location as a put-in for this stretch under low flow conditions (AW, 2022d).

AW’s October 2007 internet flow study of the West Fork determined acceptable flows for whitewater boating are between 400 and 1,000 cfs, with 600 cfs being acceptable for the majority of boaters (AW, 2007).

Several online videos were identified which included whitewater recreation activities on the West Fork. A review of the videos and commentary indicated flows were between 1,750 and 2,200 cfs, difficulty class was stated as III-/IV+, and watercraft included a raft and Hyside Paddle Cat.

4.1.4.2 Hydrology Summary

A review of the USGS NWIS and USGS Wisconsin Water Science Center concluded no current data is available from gage stations along the West Fork or Montreal River in the study area. The hydrograph provided in Section 4.1.2.2 presents the average daily discharge rate from the Gile Dam from April 29, 2017 through February 2, 2021 shows a range of 12 to 706 cfs. The hydrograph provided in Section 4.1.2.3 displays average daily discharge rate from the Saxon Falls Dam from October 1, 1986 through September 29, 2017 shows a range of 125 to 1,220 cfs.

4.1.4.3 Interview and Local Knowledge Summary

The questionnaire developed to gather information about whitewater recreation opportunities in the vicinity of the Gile Flowage was distributed to 18 local boaters, as described in Section 4.1.3. An analysis of the questionnaire revealed that five of the 18 boaters previously paddled the West Fork from Gile Dam to US Hwy 2 due to suitable whitewater availability and put-in/take-out accessibility.

One boater noted log jams can make this stretch unsuitable for less-experienced boaters. No boaters paddled the reach from US Hwy 2 to the Montreal River confluence due to lack of suitable access and limited available information regarding this reach. One boater indicated they paddled on the portion of the Montreal River from its confluence downstream to Saxon Falls, although the boating activity was not related to whitewater recreation.

4.2 Level 2 Assessment

According to the Whittaker method, a Level 2 assessment can include limited field reconnaissance of boating reaches to further develop the information discovered in the Level 1 assessment (Whittaker, D., B. Shelby, J. Gangemi, 2005). The "on-land boating feasibility assessment" methodology was used as a basis for the Level 2 assessment of the Whitewater Study.

Per the Commission's SPD, the AW 2007 study "does not meet the requirements of a Level 2 assessment because it does not accurately describe the range of optimal flows that may be used to proceed to a Level 3 assessment." The Commission recommended NSPW consult with AW, NPS, and local boaters as part of the Level 2 assessment to "resolve inconsistencies with the 2007 study, determine the need for a site visit, and define study flows" prior to the Level 3 assessment (FERC, 2021). The Level 2 assessment also included field reconnaissance for put-in/take-out locations for the Level 3 assessment and study documentation, potential put-in/take-out locations for the West Fork downstream of US Hwy 2 to the confluence with the Montreal River and the Montreal River confluence to Saxon Falls, and coordination to determine the starting flow level for the Whitewater Study.

4.2.1 American Whitewater 2007 Study

In an effort to resolve inconsistencies with the AW 2007 study, NSPW consulted with AW, NPS, and Jake Ring (local boater) on May 24, 2022, regarding the Level 2 assessment needs. AW responded on June 8, 2022, requesting clarification to the following statement from NSPW, "NSPW has determined it is unable to resolve inconsistencies with the 2007 study unless the dates of the boating experiences rated in the 2007 study are provided by American Whitewater." NSPW responded to AW with the following on June 9, 2022:

> *American Whitewater submitted a letter to the Commission on March 17, 2021 regarding "Comments of American Whitewater on the Pre-Application Document and Proposed Study for the Gile Flowage Storage Reservoir Project", which included the following regarding the West Branch Montreal River:*
>
> *"The study area econompasses [sic] the West Branch Montreal River from Gile Flowage to Highway 2 as identified in American Whitewater's National Whitewater Inventory. American Whitewater completed a survey-based flow study (i.e. a study where users self report flows and respond to an online survey) in 2007 determining that 400-1000 cfs was the optimal range. While we concluded that a significant population of river users would prefer higher flow releases, we did not evaluate flows greater than 1000 cfs. We determined that while some individuals have run the river at these higher flows, these opportunities are limited and unlikely to be provided for during a controlled release. Based on the results of our study we proposed an optimum release schedule for a weekend of two releases that would begin with a release of 600 cfs on Saturday morning at 10 am and until 4 pm, and a second release day of 800-1,000 cfs on Sunday, which would begin at 10 am and end at 4 pm. If the release schedule had to be limited to one day we concluded a flow of 600-800 cfs should be released between 10 am and 4 pm*

on a Saturday. A limitation of this study was the fact that users self-reported their runs and in some cases estimating flows and scoring flows that they may not have actually experienced. The study provides a useful starting point but results need to be confirmed to be used as the basis for protection, mitigation, and enhancement measures for recreation in a new license."

NSPW held a virtual meeting on May, 20, 2021, which you attended, to discuss the Gile Flowage Storage Reservoir Proposed Study Plan Meeting. You discussed that American Whitewater has additional data regarding the 2007 study and can e-file that information to the Commission so it can be placed on the Docket. To date, no additional information on the 2007 study has been e-filed to the Docket.

In discussions with local boaters, 400 cfs is believed to be too low to adequately boat, which contradicts the 2007 study that says 400 cfs is the minimum boatable flow. The Commission asked NSPW to try to resolve the contradiction or inconsistencies with the 400 cfs flow level in 2007 study as part of a Level 2 assessment for the Gile whitewater study. In order for NSPW to reconcile the discrepancies of the 2007 study, American Whitewater needs to provide the dates boating occurred in the 2007. If the dates are provided, NSPW can review their operational records for those boating dates to determine the flow (cfs) that occurred in the West Fork Montreal River and could then "calibrate" the results of the 2007 study. This calibrated flow (cfs) would be important to determine the starting flow for the Gile whitewater study that will take place starting at 10:00 am on Saturday, June 11, 2022.

Correspondence with AW is included in **Appendix J**.

4.2.2 On-Land Field Reconnaissance

NSPW conducted field reconnaissance prior to the Level 3 assessment based on the following objectives:

- Locate accessible and safe put-in/take-out locations for the Level 3 assessment
- Locate accessible and safe photo/video documentation locations for the Level 3 assessment

In addition, based on Level 1 assessment questionnaire responses, field reconnaissance was conducted to locate potential put-in/take-out locations for the following reaches:

- West Fork downstream of US Hwy 2 to the confluence with the Montreal River
- Montreal River confluence to Saxon Falls

4.2.2.1 Put-In/Take-Out Locations for Level 3 Assessment

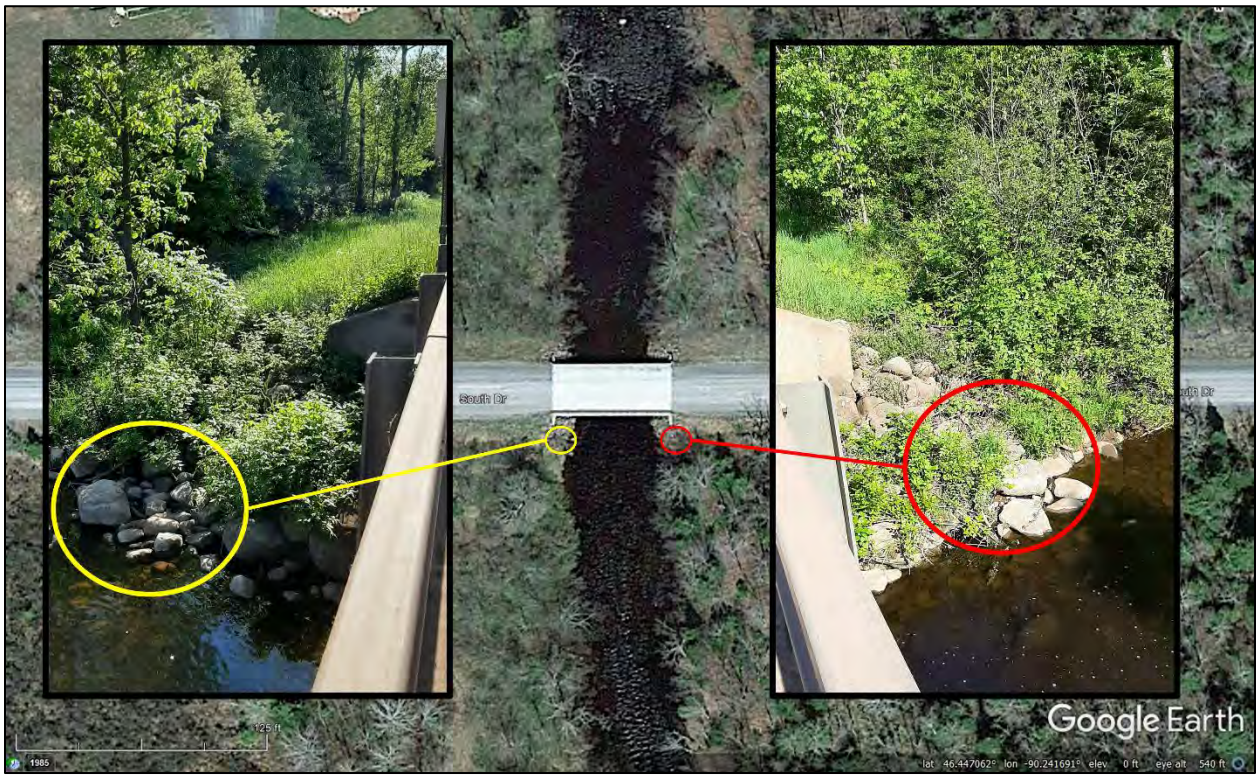
NSPW anticipated the put-in/take-out locations for the Level 3 assessment would be in the vicinity of the Gile Dam, South Drive bridge, Center Drive bridge, Kimball Town Park, and US Hwy 2 bridge. Field reconnaissance was conducted at each location on June 10, 2022. Discharge from the Gile Dam was approximately 10 cfs at this time. All photos in the figures below were taken on June 10, 2022.

The put-in location (yellow arrow) and access at the Gile Dam was determined safe and accessible, as shown in **Figure 4.2.2.1-1**.

Figure 4.2.2.1-1 Put-In Location and Access at Gile Dam

The put-in/take-out location and access at the South Drive bridge was determined safe and accessible from the upstream side, as shown in **Figure 4.2.2.1-2**. Both the east bank (river-right, red circle) and west bank (river-left, yellow circle) could be used by the boaters for put-in/take-out. The AW website lists South Road as an alternate put-in for the Gile Falls to US Hwy 2 reach on the West Fork (AW, 2022f).

Figure 4.2.2.1-2 Put-In/Take-Out Location and Access at the South Drive bridge



Note: Google Earth image date is 5/4/2015.

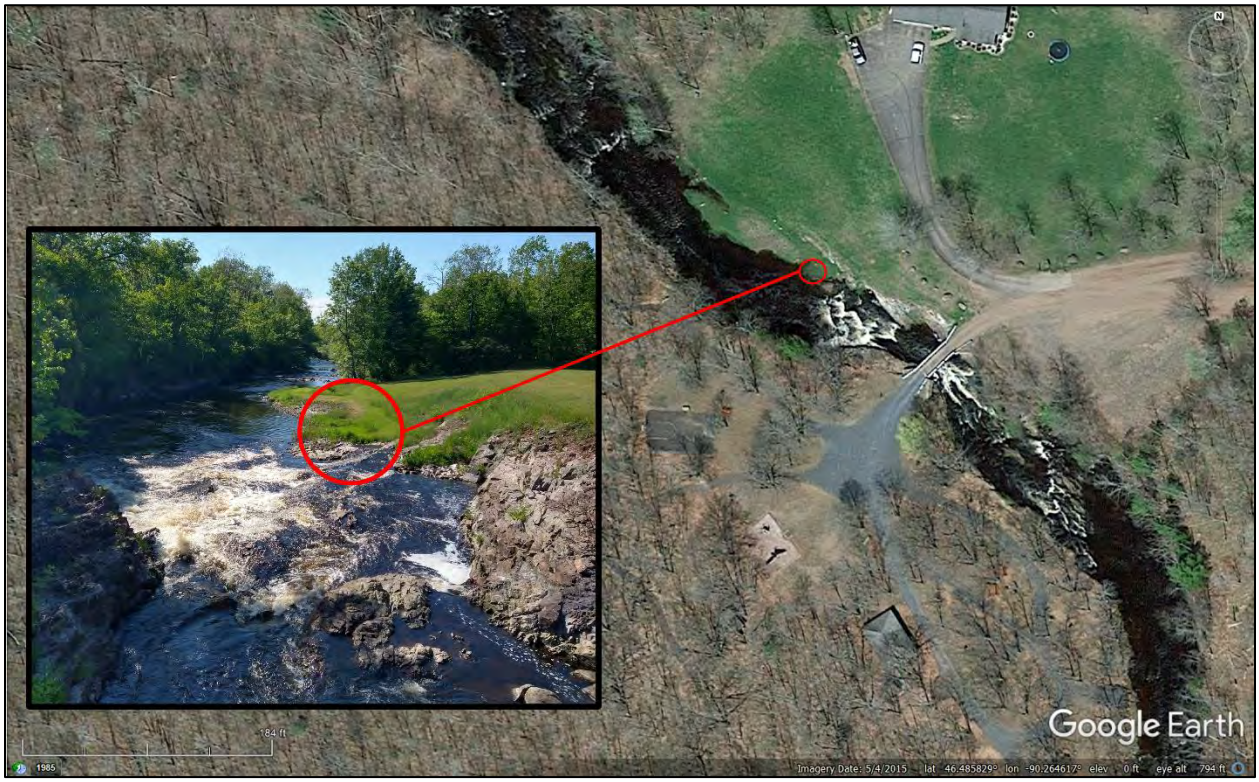
The put-in/take-out location and access at the Center Drive bridge was determined safe and accessible from the downstream side, as shown in **Figure 4.2.2.1-3**. Both the east bank (river-right, red circle) and west bank (river-left, yellow circle) are steep; however, both could be used by the boaters for put-in/take-out. The ideal put-in/take-out site would be via the east or west bank on the upstream side of the bridge; however, the area is posted with “No Trespassing” signs. The AW website lists Center Drive as a reach waypoint that could be used as alternate access for the Gile Falls to US Hwy 2 reach on the West Fork (AW, 2022f).

Figure 4.2.2.1-3 Put-In/Take-Out Location and Access at the Center Drive bridge

Note: Google Earth image date is 5/4/2015.

The put-in/take-out location and access at Kimball Town Park was determined safe and accessible from the downstream side, as shown in **Figure 4.2.2.1-4**. The east bank downstream of the Park bridge (river-right, red circle) provides plenty of space and a gentle, grass slope for egress. The AW website suggest getting out at river-left well before the Park bridge to scout (AW, 2022f).

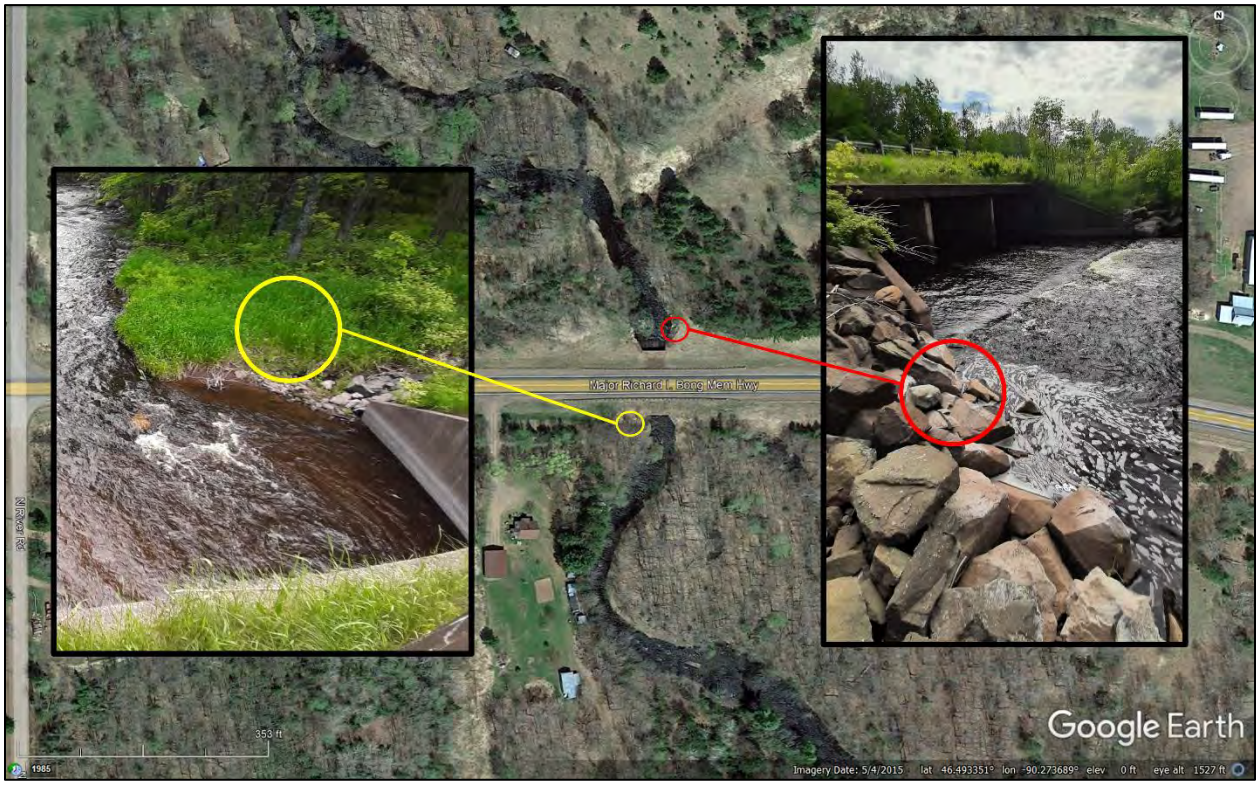
Figure 4.2.2.1-4 Put-In/Take-Out Location and Access at Kimball Town Park



Note: Google Earth image date is 5/4/2015.

The put-in/take-out access at the US Hwy 2 bridge was determined accessible from either upstream on either bank or downstream on either bank. Both banks on the downstream side are rocky, while both banks on the upstream side are vegetated. All four banks provide a moderately steep and grassy slope for access, as shown in **Figure 4.2.2.1-5**. Despite suitable access, the location is along a US highway and was therefore deemed unsafe as a put-in/take-out location for the Level 3 assessment.

Figure 4.2.2.1-5 Put-In/Take-Out Location and Access at US Hwy 2 bridge



4.2.2.2 Documentation Locations for Level 3 Assessment

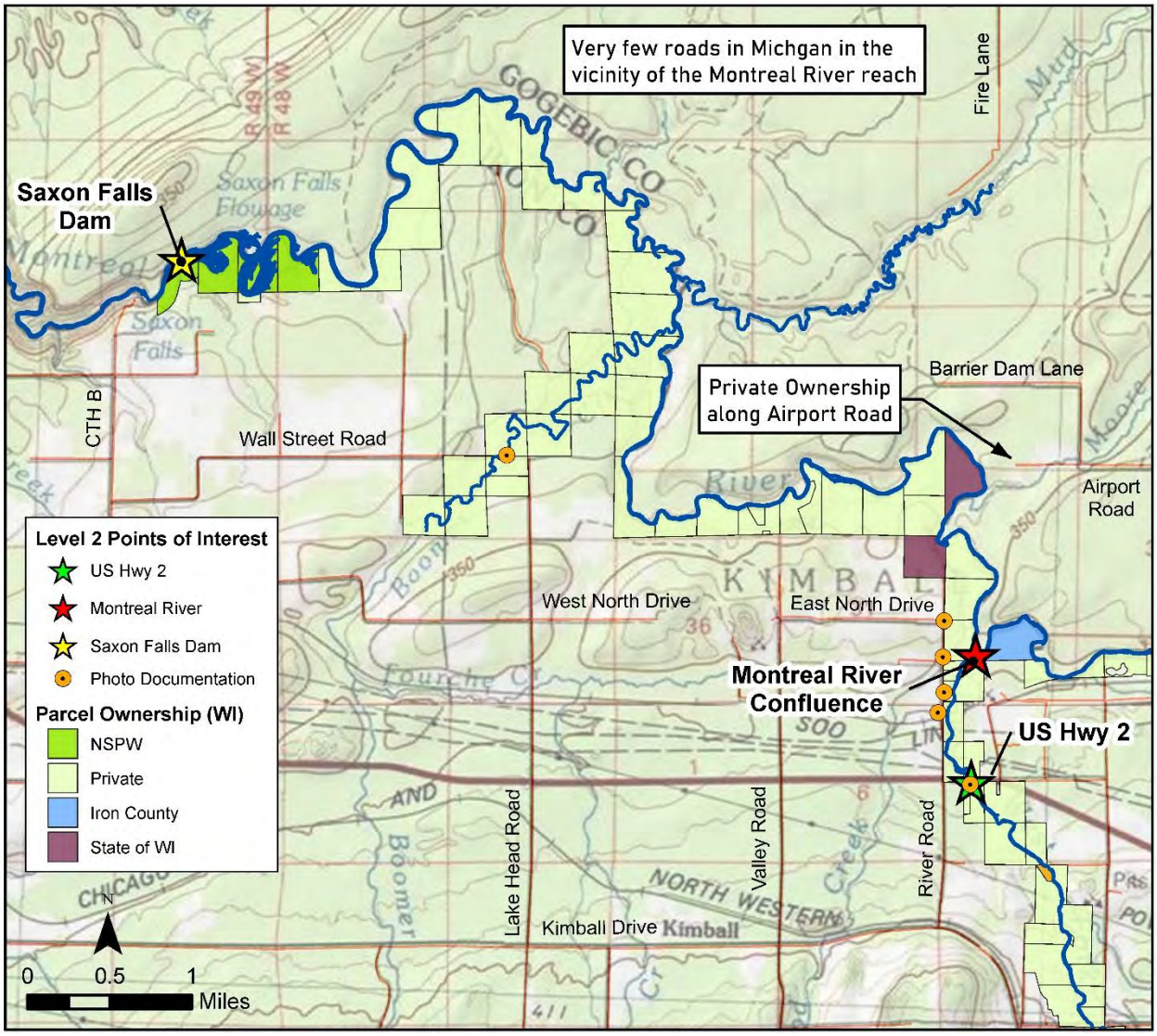
All five locations identified in Section 4.2.2.1 were also considered as a location for photo/video documentation during the Level 3 assessment. The bridge at State Highway 77 (STH 77), which is approximately 3,000 feet downstream of Gile Dam, was also considered during field reconnaissance on June 10, 2022. All six locations would provide an acceptable vantage point upstream and downstream to document the boater experience during the Level 3 assessment. NSPW decided to exclude the bridges at STH 77 and US Hwy 2 as documentation locations due to safety concerns based on their classification as a state and federal highway, respectively.

4.2.2.3 Potential Put-In/Take-Out Locations based on Level 1 Assessment

A portion of the questionnaire developed for the Level 1 assessment, described in Section 4.1.3, included an opportunity for boaters to recommend acceptable egress locations for both the West Fork from US Hwy 2 to the confluence with the Montreal River and the Montreal River from its confluence to Saxons Falls. No acceptable locations were identified or recommended by the boaters for the reach on the West Fork. One boater stated they accessed the Montreal River reach approximately 4.5 miles upstream of the confluence from Nylund Road; however, the location is not ideal.

NSPW conducted a field reconnaissance on June 10, 2022 to locate potentially acceptable egress locations for the West Fork and Montreal River reaches. A field map for the two reaches, including parcel ownership information where available, is included as **Figure 4.2.2.3-1**. Parcel ownership GIS data was readily downloadable from Iron County, Wisconsin but not for Gogebic County, Michigan.[20] The Gogebic County web-based GIS system was accessed to search property ownership information along the Montreal River reach and was narrowed to parcels adjacent to Airport Road and Barrier Dam Lane.[21] The review showed parcel ownership was private property or Gogebic County Forestry and Parks property.

Figure 4.2.2.3-1 Field Map for Level 2 Egress Location Field Reconnaissance



NSPW surveyed egress locations while traveling by vehicle along River Road, north of US Hwy 2 to the intersection of East North Drive and along Wall Street Road between Lake Head Road and CTH B. Photo documentation of the field reconnaissance efforts are included in **Appendix K**. NSPW was not able to locate acceptable egress locations for the West Fork and Montreal River reaches. The property adjoining

[20] https://www.sco.wisc.edu/parcels/data-county/, accessed June 6, 2022.
[21] Gogebic County, Michigan GIS system, https://colligogis.com/web/, accessed June 6,2022.

these reaches is mostly privately owned and marked with “No Trespassing” signs. Access to adjoining properties was prohibitive due to locked gates, dense vegetation, long portages, or steep terrain.

4.2.3 Study Flow Determination

NSPW consulted with Jake Ring between May 9 and June 2, 2022, to determine if the flow releases for the Level 3 Assessment would be between 600-1,000 cfs. The actual flow releases would be determined onsite as part of a limited reconnaissance prior to the start of the Level 3 Assessment. NSPW coordinated with Jake Ring and internal personnel and decided that the Whitewater Study would take place on Saturday, June 11, 2022, after the spring thaw. Sunday, June 12, 2022 was chosen as a back-up date in case of unforeseen weather or safety conditions, or if an additional day was needed to complete the study. Study flow correspondence with Jake Ring is included in **Appendix J**. The flow release determination was communicated with AW and NPS on May 24, 2022. AW responded on June 8, 2022 in support of the 600-1,000 cfs flow range with the understanding the range could be adjusted based on the perspective of those onsite during the Level 3 assessment. NPS responded on June 9, 2022 stating the agency is not able to attend the Level 3 assessment and provided no further comments. Correspondence with AW and NPS is included in **Appendix H**.

4.2.4 Level 2 Assessment Summary

NSPW was not able to reconcile the inconsistencies with the 400 cfs flow in the AW 2007 study. NSPW requested the study dates from the AW 2007 study in an effort to review its operational records to determine what flows in the West Fork occurred during that time. Those flows could then be used to determine the starting flow for the Whitewater Study. NSPW did not receive the dates of the AW 2007 study and therefore no verification could be made regarding the 400 cfs. NSPW consulted with Jake Ring to determine a flow range for the Whitewater Study; study flows were established from 600-1,000 cfs.

On-land field reconnaissance identified four locations to provide accessible and safe put-in/take-out locations for boaters participating in the Whitewater Study, as well as accessible and safe photo/video locations for NSPW to document the study. Those locations include the Gile Dam, South Drive bridge, Center Drive bridge, and Kimball Town Park.

On-land field reconnaissance was conducted to locate potential put-in/take-out locations for the following reaches: West Fork downstream of US Hwy 2 to the confluence with the Montreal River and Montreal River confluence to Saxon Falls. NSPW did not identify potential put-in/take-out locations for either reach. The majority of property adjoining these reaches is privately owned. Access to government-owned adjoining properties was prohibitive due to locked gates, dense vegetation, or steep terrain.

4.3 Level 3 Assessment

According to the Whittaker method, a Level 3 assessment should be conducted for flow-dependent whitewater recreation opportunities (Whittaker, D., B. Shelby, J. Gangemi, 2005). A controlled flow assessment was used to analyze whitewater boating opportunities on the West Fork for two flow releases. NSPW developed the study plan, evaluation forms, and study logistics. NSPW also coordinated with its Gile Dam operators to evaluate the study.

4.3.1 Level 3 Assessment Coordination

Jake Ring coordinated the logistics with the boaters and informed them the Whitewater Study was scheduled for Saturday, June 11, 2022. Participants would meet in the parking lot of Gile Park at 14 Park Street in Gile, Wisconsin. The first run was anticipated to begin at 10:00 a.m.

Jake Ring notified NSPW of a log jam at the Rock Cut Rapids area on May 16, 2022 and inquired if it could be removed prior to the study. NSPW responded on May 17, 2022 stating log jam and debris removal from a river is not the responsibility of the Utility. See correspondence in **Appendix L**. In addition, the American Whitewater website indicates Rock Cut Falls is known “to collect snags” and boater scouting is advised.[22]

NSPW distributed a press release on June 6, 2022 notifying the public of the Whitewater Study. The press release was distributed to NSPW’s northern distribution list, which includes Ashland Daily Press, Duluth News Tribune, Ironwood Daily, WPR-Superior, Up North News, Price County Review, Washburn County Register. The press release is provided in **Appendix M**.

4.3.2 Whitewater Study Participant Background Information

Prior to the Whitewater Study, boater participants were asked to complete a questionnaire about their preferred boating craft, boating skill level, frequency, previous experience with whitewater studies and the West Fork, and preferred river characteristics. Boaters were also asked how far they traveled for this study and if they previously participated in a hydro relicensing whitewater boater study. A summary of the boaters’ responses is provided below and a copy of the questionnaire and participant responses are included in **Appendix N**.

Table 4.3.1-1 summarizes the boater responses for boating skill level and boating frequency. Each boater determined their own skill level. Ten boaters (56%) ranked themselves at an expert skill level, while the remaining eight boaters were equally split between intermediate (22%) and advanced (22%). Intermediate boaters have been boating an average of 4.5 years at this level; the greatest number of years was seven and the fewest was two. Advanced boaters have been boating an average of 9.75 years at this level; the greatest number of years was 20 and the fewest was four. Expert boaters have been boating an average of 8.5 years at this level; the greatest number of years was 20 and the fewest was three.

Intermediate boaters recreated an average of 29 to 31 days a year; the greatest number of days was 50 and the fewest was 10. Advanced boaters recreated an average of 50 to 65 days a year; the greatest number of days was 100 and the fewest was 40. Expert boaters recreated an average of 54 to 58 days a year; the

[22] https://www.americanwhitewater.org/content/River/view/river-detail/2300/main, River Description, accessed May 16, 2022.

greatest number of days was 100 and the fewest was 15. No boaters ranked themselves with an elite skill level. Ten boaters indicated their preferred craft is a kayak, while six preferred a raft. Two boaters did not indicate a preferred boating craft.

Table 4.3.1-1 Boater Skill Level and Boating Frequency

Skill Level	Number of Boaters	Years at this Level (Boater Average)	Days a Year Boating (Boater Average)*	Craft Preference	
				Kayak	Raft
Intermediate	4	4.5	29 to 31	2	2
Advanced	4	9.75	50 to 65	4	0
Expert	10	8.5	54 to 58	4	4
Elite	0	0	0	0	0

* Six boaters provide a range for boating days; therefore, the average was calculated using both the low and high number of days.

Table 4.3.1-2 summarizes the number of boaters who previously participated in a hydro relicensing whitewater study, how many previously boated the West Fork, and how far each boater travelled in miles for this Whitewater Study.

Table 4.3.1-2 Boater Skill Level and Boating Frequency

Skill Level	Participated in Relicensing Study		Previously Boated West Fork		Miles Travelled for the Whitewater Study (Boater Average)*
	Yes	No	Yes	No	
Intermediate	0	4	0	4	213
Advanced	0	4	1	3	165
Expert	2	8	5	5	151

* Some boaters listed a city rather than miles. NSPW calculated the miles travelled based on that city's center to the Gile Park parking lot in Gile, Wisconsin (46.425582°, -90.224064°) using Google Earth.

Two expert-level boaters previously participated in the Saxon Falls and Superior Falls hydroelectric projects relicensing recreation flow study for the Montreal River Canyon in May 2021.

One advanced-level and five expert-level boaters previously boated the West Fork. Boaters were given the opportunity to provide information about their previous experience including frequency, flows, and craft. Four boaters ran the West Fork once or twice, one boater ran it over 100 times, and another stated they run it when water levels allow. Boaters experienced flows between 650 to 2,000 cfs. Five boaters used a kayak and one used a raft.

The Whitewater Study included participants who reside in the following states: Michigan (6 boaters), Minnesota (5 boaters), Wisconsin (4 boaters), Missouri (1 boater), and South Dakota (1 boater). Boaters were asked how many miles they travelled specifically for the Whitewater Study. The average distance travelled for intermediate-level boaters was 213 miles, advanced-level boaters was 165 miles, and expert-level boaters was 151 miles. The shortest distance travelled was five miles and the longest was 450 miles. One boater declined to provide their zip code, but did indicate they travelled 200 miles to participate in the Whitewater Study.

Boaters were asked to respond to nine statements about their preferred river reach characteristics and rate them as strongly agree (5), agree (4), neutral (3), disagree (2), or strongly disagree (1). **Table 4.3.1-3** lists the reach characteristic statements and the average rating for each statement based on boater responses.

Table 4.3.1-3 Boater Rated Preferred Reach Statements

Preferred Reach Characteristic Statement	Average Rating
I prefer running rivers with fast water and small to no rapids (Class I/II/III).	2.1
I prefer running rivers with challenging rapids (Class IV).	4.6
I often boat short river segments (under 2 miles) to experience a unique and interesting place.	3.7
I often boat short river segments (under 2 miles) to take advantage of whitewater play areas.	4.1
I often boat short river segments (under 2 miles) to run challenging rapids.	4.3
Good whitewater play areas are more important than challenging rapids.	2.8
I am willing to tolerate difficult put-ins, portages, and take-outs to run interesting reaches of whitewater.	4.8
The most important consideration for planning my boating trips is running challenging whitewater.	3.9
The most important consideration for planning my boating trips is boating on a weekend, regardless of flow.	3.6

In general, the boaters that participated in the Whitewater Study prefer rivers with more challenging rapids versus rivers with fast water and small to no rapids. Boaters prefer river segments under 2 miles if the run includes challenging rapids and whitewater play areas, less preference is placed on a unique or interesting river location. Boaters are almost neutral on their preference to whitewater play areas versus challenging rapids. Boaters are especially willing to tolerate difficult put-ins, portages, and take-outs to run interesting reaches of whitewater. When planning whitewater recreation trips, boaters base their trips on challenging whitewater, but would plan a trip regardless of flow if boating could occur on a weekend.

4.3.3 Level 3 Assessment Methodology

Based on the RSP, the Level 3 assessment would include analysis of whitewater recreation on the following reaches of the West Fork:

- Reach 1 – Gile Dam (put-in) to South Drive Bridge (take-out) (2.07 miles)
- Reach 2 – South Drive Bridge (put-in) to Center Drive Bridge (take-out) (2.62 miles)
- Reach 3 – Center Drive Bridge (put-in) to Kimball Town Park (take-out) (1.15 miles)

These reaches were chosen based on put-in/take-out accessibility and bridge visibility as a waypoint for boaters from the West Fork, and study documentation accessibility and vantage point along and above the West Fork. The three reaches and associated put-in/take-out and study documentation locations are show in **Figure 4.3.2-1**.

Boaters were provided the opportunity to scout the reaches prior to the start of each of the two flow releases. Jake Ring and several boaters scouted the area prior to the start of the study and removed the log jam on June 10, 2022 (Mead & Hunt, 2022). Jake Ring was unable to participate in the boating portion of the study on June 11, 2022; however, he was present throughout the study to provide logistical support, including boater transportation between reach locations.

Figure 4.3.2-1 Gile Flowage Whitewater Study Location Map

Boater evaluation forms were developed for each reach (3) and each flow release (2), for a total of six evaluations per boater. In addition, boaters were asked to complete an overall evaluation form to compare the two flow releases. A copy of each evaluation form is included in **Appendix O**. The evaluation form asked boaters to rate the whitewater difficulty classification, flow rate preference, boatable flow, features, safety, length, and aesthetics for each run; and provide details for specific challenges, portages, and safety issues they experienced during each run.

Study methodology directed all boaters to take-out at the end of each reach to complete the corresponding evaluation form (example: Reach 1, Flow 1) and then put-in and run the subsequent reach. Take-out locations were established at South Drive bridge (Study Reach 1), Center Drive bridge (Study Reach 2), and Kimball Town Park (Study Reach 3). Once the final reach was completed for the first flow release, boaters would return to the Gile Dam and begin the study for the same three reaches at the second flow release. All 17 boaters participated in the first run while 11 participated in the second run.

The overall evaluation form asked boaters to provide an optimal flow range for the West Fork from Gile Dam to Kimball Town Park; highest safe flow based on boater skill level and craft; optimal flow for a standard and high challenge run; and if only one flow was released, what would that optimal flow be. Additional information was collected about boating experience to gage interest in the study run, best time of year for boating this run, suitable flows for beginners and play boating, preference on method to receive flow information, and other boating opportunities in the area. Boaters were also asked to rank ten various flow releases from acceptable, marginal, or unacceptable to gather information on optimal flow releases.

After all evaluation forms were completed, the remaining boaters, Jake Ring, and NSPW personnel participated in a post-evaluation discussion to collect additional information and input from the boaters pertaining to the whitewater recreation opportunities available on the West Fork.

All evaluation forms and the post-evaluation discussion are summarized in Section 5.

5. Whitewater Study Level 3 Assessment Results and Discussion

The Whitewater Study results for the Level 3 assessment are based on the input provided by the boater participants using the boater evaluation form (completed after each reach/run), Overall Evaluation Form (comparison of flow releases at completion of all reaches/runs), and post-evaluation discussion. The responses on the evaluation forms, and notes from the post-evaluation discussion, were compiled and compared between the two flow releases to refine the minimal and optimal flow needed to provide a quality boating experience on the West Fork.

All 17 boaters ran the first run at a flow release of 600 cfs, with 12 boaters in kayaks and five in rafts (two in one raft, three in the other). All boaters exited at the end of the first reach (South Drive bridge) at 600 cfs to complete the evaluation form. The biting insects at this location were overwhelming for all participants. In response, Jake Ring consulted with the boaters and all agreed to continue the 600 cfs run to the final take-out at Kimball Town Park, and skip the take-out at the Center Drive bridge. Once at Kimball Town Park, boaters completed the evaluation forms for both Reach 2 and Reach 3 for 600 cfs.

Jake Ring consulted with the boaters after the completion of the first run (600 cfs) to determine if any boaters were interested in continuing the run downstream to US Hwy 2. They also discussed what the preferred flow release should be for the second run. Boaters were not interested in continuing the run downstream to US Hwy 2 at 600 cfs because the reach would be too boney. Additionally, boaters requested the second run be completed at a flow release of 1,200 cfs rather than 1,000 cfs, as included in the RSP. Boaters also agreed to complete the second run using the put-in at Gile Dam and take-out at Kimball Town Park, and skip the take-outs at South Drive bridge and Center Drive bridge due to biting insects.

NSPW personnel stood on the South Drive bridge (end of Reach 1) and Center Drive bridge (end of Reach 2) during the second run as a visual marker for the boaters. 11 boaters participated in the second run at a flow release of 1,200 cfs, with nine boaters in kayaks and two boaters in one raft. The evaluation forms for all three reaches at the 1,200 cfs flow release were completed at Kimball Town Park (end of Reach 3). Boaters were again offered the opportunity to continue the run at 1,200 cfs downstream to US Hwy 2, and again, no boaters chose to continue. Rather, several boaters chose to run Kimball Falls repeatedly as time and energy allowed.

All evaluation forms were collected in the field on the day of the Whitewater Study (June 11, 2022). Three boaters that participated in one or both runs of the study did not complete all the associated evaluation forms on June 11, 2022. NSPW coordinated with Jake Ring, who emailed the evaluation forms to each of the three boaters to give them another opportunity to provide their input on the study. NSPW received the completed evaluations from Jake Ring for two of the three boaters on July 8, 2022.

Boater evaluation forms were received for the first run (600 cfs) from 17 boaters for Reach 1 and Reach 2, and 15 boaters for Reach 3 and are included in **Appendix P**. Boater evaluation forms were received for the second run (1,200 cfs) from 10 of the 11 boaters for all three Reaches and are included in **Appendix Q**. These same ten boaters also completed the overall evaluation form, which are included in **Appendix R**, and participated in the focus-group discussion.

5.1.1 Boater Rated Whitewater Difficulty

Boater input regarding whitewater difficulty for the two flow releases, based on the American version of the International Whitewater Scale of River Difficulty, is shown in **Table 5.1.1-1**.[23] The majority of boaters rated all reaches at both flow releases as a Class III and/or Class IV. The range of difficulty identified from boater responses is also included for each reach of each flow release.

Table 5.1.1-1 Boater Rated Whitewater Difficulty Class for each Reach at each Flow Release

Difficulty	Reach 1 Majority	Reach 1 Range	Reach 2 Majority	Reach 2 Range	Reach 3 Majority	Reach 3 Range
Flow 1 (600 cfs)	**Class III**	Classes III, III+, IV	**Class IV**	Classes III, III+, III-IV, IV	**Class III**	Classes III, III+, III-IV, IV
Flow 2 (1,200 cfs)	**Class IV**	Classes III, IV, IV+	**Class IV**	Classes I-II, II-III, III, IV, IV+	**Class III-IV**	Classes III-IV, IV

5.1.2 Boater Rated Optimal Flow Rate

Boaters were asked to indicate if each flow release was optimal for the three reaches, or if the boater would prefer a higher flow or lower flow for that reach. The results are shown in **Table 5.1.2-1**. The majority of boaters indicated the 600 cfs was insufficient, with 13 (76%) boaters indicating a higher flow would be preferable in Reach 1, 14 (82%) in Reach 2, and 13 (87%) in Reach 3. One boater indicated they would prefer a much higher flow rate than 600 cfs in Reach 1. The majority of boaters indicated 1,200 cfs was too high or optimal, with seven boaters (70%) indicating a lower flow would be preferred for Reach 1 and eight boaters (80%) stating the flow was optimal for Reach 2 and Reach 3.

Table 5.1.2-1 Boater Rated Optimal Flow for each Reach at each Flow Release

Flow Rate	Much Higher	Higher	Optimal	Lower	Much Lower
Flow 1 (600 cfs) Reach 1	1 (6%)	**13 (76%)**	3 (18%)	0	0
Flow 1 (600 cfs) Reach 2	0	**14 (82%)**	3 (18%)	0	0
Flow 1 (600 cfs) Reach 3*	0	**13 (87%)**	4 (27%)	0	0
Flow 2 (1,200 cfs) Reach 1^	0	0	5 (50%)	**7 (70%)**	0
Flow 2 (1,200 cfs) Reach 2	0	0	**8 (80%)**	2 (20%)	0
Flow 2 (1,200 cfs) Reach 3#	0	0	**8 (80%)**	3 (30%)	0

* Flow 1, Reach 3 is greater than 100%, two boaters chose both higher and optimal.
^ Flow 2, Reach 1 is greater than 100%, two boaters chose both optimal and lower.
# Flow 2, Reach 3 is greater than 100%, one boater chose both higher and optimal.

[23] https://www.americanwhitewater.org/content/Wiki/safety:internation_scale_of_river_difficulty, accessed May 23, 2022.

5.1.3 Boater Rated Whitewater Characteristics

Boater were asked to rate various whitewater characteristics of the West Fork including how likely they would return for future boating at 600 cfs and 1,200 cfs flow releases; if each reach is boatable at 600 cfs and 1,200 cfs; if each reach has acceptable water features, play spots, overall whitewater challenge and portages; and if each run is safe, a good length, and aesthetic. Boaters rated these characteristic statements on a scale of one to five, with one being “Strongly Disagree”, two being “Disagree”, three being “Neutral”, four being “Agree”, and five being “Strongly Agree”.

A comparison of the average and median boater rating of the characteristics for each of the two flow releases for the three reaches is shown in **Table 5.1.3-1**. The boatability and safety of the reach at each flow were rated, as well as the likelihood to boat a reach at each flow release in the future. All reaches received an average rating equal to or greater than 4.4 (median is Strongly Agree) for boatability and safety at both flow releases, with the exception of Reach 1 at 1,200 cfs, which was rated at 4.1 (median is Agree) for boatability and 3.8 (median is Agree) for safety. All ten boaters who ran the 1,200 cfs flow release stated they would return for whitewater recreation opportunities along Reach 2 (average and median are Strongly Agree) and Reach 3 (average and median are Strongly Agree) if the same flow release was offered in the future. Reach 1 at 1,200 cfs received an average rating of 4.1 (median is Strongly Agree). Boaters indicated they were less likely to return for whitewater recreation opportunities to any of the reaches at 600 cfs; however, the average rating for each reach was greater than 4.0. In general, the average rating for reach water features, play spots, whitewater challenge, portages, length, and aesthetics were higher for the 1,200 cfs flow release.

Table 5.1.3-1 Comparison of Average and Median Characteristic Statement Rating

West Fork	Statement Regarding Flow						The following characteristics are acceptable at this flow											
	Boatable		Safe		Will Boat Again		Water Features		Play Spots		Whitewater Challenge		Portages		Length		Aesthetics	
	Avg	Med	Avg	Med	Avg	Med	Avg	Med	Avg	Med	Avg	Med	Avg	Med	Avg	Med	Avg	Med
Reach 1 600 cfs	4.6	5.0	4.6	5.0	4.2	4.0	4.2	4.0	2.7	3.0	3.8	4.0	4.3	4.5	3.9	4.0	4.6	5.0
Reach 2 600 cfs	4.6	5.0	4.4	5.0	4.4	5.0	4.6	5.0	3.2	3.0	4.4	5.0	3.7	4.0	4.5	5.0	4.8	5.0
Reach 3 600 cfs	4.6	5.0	4.6	5.0	4.5	5.0	4.5	5.0	3.4	4.0	4.2	4.0	4.3	4.0	4.4	5.0	4.7	5.0
Reach 1 1,200 cfs	4.1	4.0	3.8	4.0	4.1	5.0	4.1	4.0	3.1	3.0	4.0	4.0	4.4	4.5	3.9	4.0	4.3	4.0
Reach 2 1,200 cfs	5.0	5.0	4.5	5.0	5.0	5.0	4.6	5.0	3.7	4.0	4.8	5.0	4.7	5.0	4.9	5.0	4.9	5.0
Reach 3 1,200 cfs	5.0	5.0	4.7	5.0	5.0	5.0	5.0	5.0	3.6	3.5	4.9	5.0	4.8	5.0	5.0	5.0	5.0	5.0

Results of the boater rated characteristics for both flow releases are shown in **Table 5.1.3-2** for Reach 1, **Table 5.1.3-3** for Reach 2, and **Table 5.1.3-4** for Reach 3.

Table 5.1.2-2 Boater Rated West Fork Characteristics for Reach 1

Characteristic	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Average	Median
Likely to return for future boating if the flow for this run were to be provided							
600 cfs	5	10	2	0	0	4.2	4.0
1,200 cfs	7	0	1	1	1	4.1	5.0
Boatable at this flow							
600 cfs	10	7	0	0	0	4.6	5.0
1,200 cfs	4	4	1	1	0	4.1	4.0
Provides nice water features (waves, holes, drops)							
600 cfs	6	8	3	0	0	4.2	4.0
1,200 cfs	4	4	1	1	0	4.1	4.0
Good play spots							
600 cfs	0	4	6	5	2	2.7	3.0
1,200 cfs	2	2	2	3	1	3.1	3.0
Offers good overall whitewater challenge							
600 cfs*	1	11	3	1	0	3.8	4.0
1,200 cfs	4	3	2	1	0	4.0	4.0
Portages are acceptable/usable							
600 cfs*	8	4	4	0	0	4.3	4.5
1,200 cfs	5	4	1	0	0	4.4	4.5
This is a safe run							
600 cfs*	9	7	0	0	0	4.6	5.0
1,200 cfs	2	5	2	1	0	3.8	4.0
Acceptable run length							
600 cfs**	4	6	4	1	0	3.9	4.0
1,200 cfs	4	3	1	2	0	3.9	4.0
Aesthetically pleasing run							
600 cfs*	11	4	1	0	0	4.6	5.0
1,200 cfs	4	5	1	0	0	4.3	4.0

* One boater did not rate this characteristic.

** Two boaters did not rate this characteristic.

Table 5.1.2-3 Boater Rated West Fork Characteristics for Reach 2

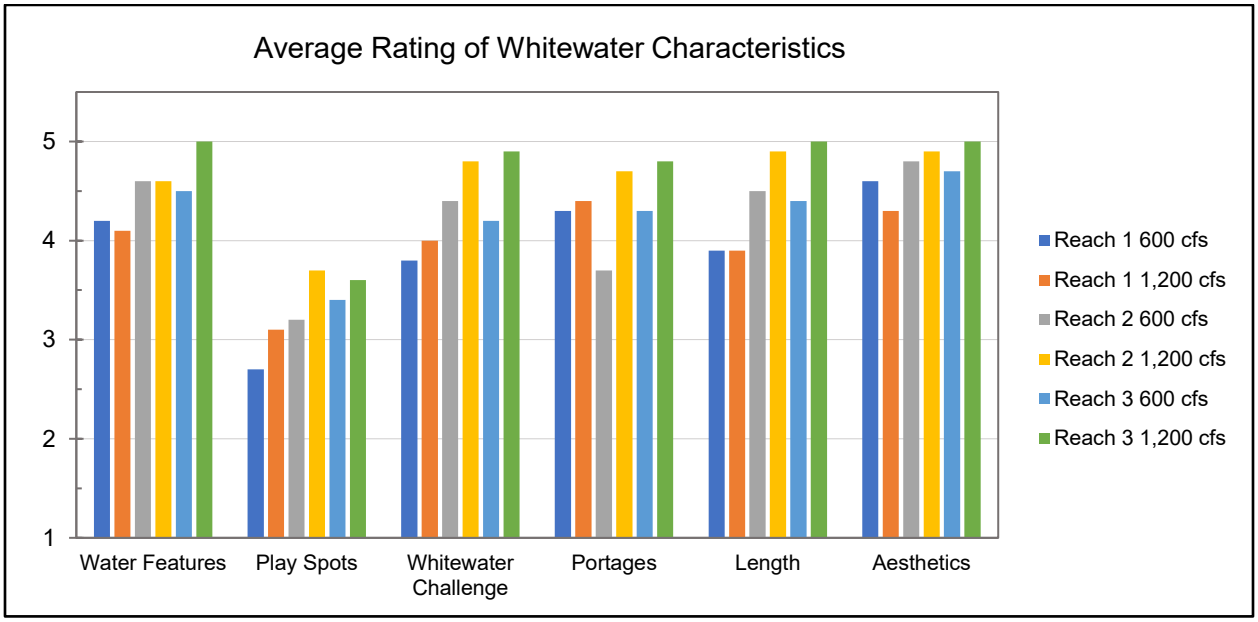
Characteristic	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Average	Median
Likely to return for future boating if the flow for this run were to be provided							
600 cfs	9	6	2	0	0	4.4	5.0
1,200 cfs	10	0	0	0	0	5.0	5.0
Boatable at this flow							
600 cfs	12	4	1	0	0	4.6	5.0
1,200 cfs	10	0	0	0	0	5.0	5.0
Provides nice water features (waves, holes, drops)							
600 cfs	11	5	1	0	0	4.6	5.0
1,200 cfs	8	1	0	1	0	4.6	5.0
Good play spots							
600 cfs	3	3	8	1	2	3.2	3.0
1,200 cfs	3	3	2	2	0	3.7	4.0
Offers good overall whitewater challenge							
600 cfs	9	6	2	0	0	4.4	5.0
1,200 cfs	9	0	1	0	0	4.8	5.0
Portages are acceptable/usable							
600 cfs	3	6	8	0	0	3.7	4.0
1,200 cfs	8	1	1	0	0	4.7	5.0
This is a safe run							
600 cfs	9	6	2	0	0	4.4	5.0
1,200 cfs	6	3	1	0	0	4.5	5.0
Acceptable run length							
600 cfs	10	6	1	0	0	4.5	5.0
1,200 cfs	9	1	0	0	0	4.9	5.0
Aesthetically pleasing run							
600 cfs	14	3	0	0	0	4.8	5.0
1,200 cfs	9	1	0	0	0	4.9	5.0

Table 5.1.2-4 Boater Rated West Fork Characteristics for Reach 3

Characteristic	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree	Average	Median
Likely to return for future boating if the flow for this run were to be provided							
600 cfs	10	3	2	0	0	4.5	5.0
1,200 cfs	10	0	0	0	0	5.0	5.0
Boatable at this flow							
600 cfs	10	4	1	0	0	4.6	5.0
1,200 cfs	10	0	0	0	0	5.0	5.0
Provides nice water features (waves, holes, drops)							
600 cfs	8	6	1	0	0	4.5	5.0
1,200 cfs	10	0	0	0	0	5.0	5.0
Good play spots							
600 cfs	2	6	4	2	1	3.4	4.0
1,200 cfs	3	2	3	2	0	3.6	3.5
Offers good overall whitewater challenge							
600 cfs	7	4	4	0	0	4.2	4.0
1,200 cfs	9	1	0	0	0	4.9	5.0
Portages are acceptable/usable							
600 cfs	7	6	2	0	0	4.3	4.0
1,200 cfs	9	0	1	0	0	4.8	5.0
This is a safe run							
600 cfs	11	2	2	0	0	4.6	5.0
1,200 cfs	7	3	0	0	0	4.7	5.0
Acceptable run length							
600 cfs	8	5	2	0	0	4.4	5.0
1,200 cfs	10	0	0	0	0	5.0	5.0
Aesthetically pleasing run							
600 cfs	10	5	0	0	0	4.7	5.0
1,200 cfs	10	0	0	0	0	5.0	5.0

Figure 5.1.3-1 shows the average rating of each acceptable characteristic statement of the West Fork based on boater input. All three reaches at both flow releases received an average rating of greater than 4.0 for water features and aesthetics. Play spots were rated the least acceptable for all three reaches at both flow releases, with average ratings between 2.7 and 3.7. All three reaches at the 1,200 cfs flow release received a higher average acceptable rating than the same reach at 600 cfs for water features, play spots, whitewater challenge, portages, length, and aesthetics except for the following: acceptable length for Reach 1 at each flow release were rated the same (3.9), acceptable water features for Reach 2 at each flow release were rated the same (4.6), acceptable water features for Reach 1 were rated slightly higher at 600 cfs (4.2) than 1,200 cfs (4.1), and acceptable aesthetics for Reach 1 were rated higher at 600 cfs (4.6) than 1,200 cfs (4.3). The lowest acceptable rating was received for play spots for Reach 1 at the 600 cfs flow release (2.7). The highest acceptable rating was received for water features, length, and aesthetics for Reach 3 at 1,200 cfs flow release (5.0 for each).

Figure 5.1.3-1 Average Boater Rating of West Fork Whitewater Characteristics



5.1.4 Boater Reported Hits, Stops, Drags, and Portages

Boaters were asked to estimate the number of hits, stops, drags, and portages they experienced on each reach for each flow release. If the boater portaged, they were given the opportunity to state the location and rate the portage difficulty from one to four, with one being “Extremely Difficult”, two being “Moderately Difficult”, three being “Slightly Difficult”, and four being “Easy”. **Table 5.1.4-1** summarizes the number of hits, stops, drags, and portages the boaters experienced during the study.

Boaters reported they experienced more frequent hits, stops, or drags at the 600 cfs flow release versus the 1,200 cfs flow release. No drags were reported for Reach 1 at the 600 cfs flow release, and no stops or drags were reported for any of the reaches at the 1,200 cfs flow release. All reported hits were due to rocks, with the exception of one hit on the bottom of the Gile Falls bridge for Reach 1 at the 1,200 cfs flow release. Boaters stated the rock hits were typically due to a misjudged line or shallow water in wide spots, but all hits were manageable. The stops reported in each Reach at the 600 flow releases were also due to a misjudged line and were manageable (paddled off). One boater reported they had to get out and drag their kayak off an obstacle two times (Reach 2, 600 cfs) and another reported one drag (Reach 3, 600 cfs); neither boater indicated the obstacle type (rock, log, other). Six boaters portaged Gile Falls (Reach 1) at the 1,200 cfs flow release due to the low bridge. Those boaters exited river-left and put-in after the bridge. Four boaters rated the portage as “Easy”, one as “Slightly Difficult”, and one did not provide a rating. No other features were portaged during the study.

Table 5.1.4-1 Boater Reported Hits, Stops, Drags, and Portages

	Reported Hits		Reported Stops		Reported Drags		Reported Portages	
	# of Boaters	Hit Average	# of Boaters	Stop Average	# of Boaters	Drag Average	# of Boaters	Rating Average
Reach 1 600 cfs	10	1.3	2	1	-	-	-	-
Reach 1 1,200 cfs	4	2.5	-	-	-	-	6	Easy
Reach 2 600 cfs	12	7.8	3	1.7	1	2.0	-	-
Reach 2 1,200 cfs	7	4.0	-	-	-	-	-	-
Reach 3 600 cfs	11	6.8	4		1	1.0	-	-
Reach 3 1,200 cfs	6	4.5	-	-	-	-	-	-

5.1.5 Boater Identified Challenging Features and Safety Issues

Boaters were asked to identify challenging features, such as rapids or sections of a reach, and rate the class based on the American version of the International Scale of River Difficulty.[24] **Table 5.1.5-1** summarizes the features boaters identified for each reach of the study, as well as the difficulty class as provided by American Whitewater. Gile Falls (Reach 1) was rated as III to IV at 600 cfs and IV to V at 1,200 cfs. Both Rock Cut Falls (Reach 2) and Kimball Falls (Reach 3) were rated as Class III to IV for both flow releases. Boaters identified a stretch in Reach 2 with two drops followed by a continuous section with plenty of rapids and holes (boogie water). The drops were rated as Class III to III+ at 600 cfs and Class III to IV at 1,200 cfs, the boogie water was rated as Class III for both flow releases. Several boaters commented the water sections between each of the falls provided a great Class I to II opportunity for beginner boaters. The boater difficulty class ratings were similar to those of American Whitewater.[25]

Table 5.1.5-1 Boater Identified Challenging Features and Difficulty Class

Features (upstream to downstream)	Difficulty Class		Difficulty Class
Reach 1	**600 cfs**	**1,200 cfs**	**American Whitewater**
Giles Falls*	III to IV	IV to V	IV
Flatwater	II	I	Flatwater (NR)
Reach 2	**600 cfs**	**1,200 cfs**	**American Whitewater**
Rock Cut Falls	III to IV	III to IV	IV
Two drops/Boogey Water	III to III+	III to IV	III (Zig-Zag)
Reach 3	**600 cfs**	**1,200 cfs**	**American Whitewater**
Water to Kimball Falls	NR**	II	I-II
Kimball Falls	III to IV	III to IV	III+

* Six boaters portaged Gile Falls at 600 cfs.
** Not rated.

[24] https://www.americanwhitewater.org/content/Wiki/safety:internation_scale_of_river_difficulty, accessed May 23, 2022.
[25] https://www.americanwhitewater.org/content/River/view/river-detail/2300/main, accessed September 22, 2022.

Boaters were asked to provide information on safety issues they observed or experienced along the West Fork during the study. General observations for the three reaches at both flow releases included tree strainer potential, abundant rocks which become harder to see as flow increases, and riverbank brush obstacles. Several boaters observed a swim at Gile Falls at the 600 cfs flow release. A kayak got stuck on an obstacle and overturned, the swimmer was able to get downstream and recover in a hole. Boaters recommended to have individuals on the shore to provide assistance with ropes, if necessary, for safety during future runs at Gile Falls due to the low bridge, large hole, and potential pin or sweeper hazard at river-right. Boaters also indicated there is a swim potential at Rock Cut Falls (Reach 2), and the Kimball Falls bridge and flashy holes along Reach 3 could be a concern at higher flow releases.

5.1.6 Whitewater Study Overall Evaluation and Discussion

At the conclusion of the last run (Reach 3 at 1,200 cfs), 10 of the 11 boaters who participated in both the 600 cfs and 1,200 cfs flow releases completed the overall evaluation form (**Appendix R**) and participated in the focus-group discussion. A summary of boater responses to the questions asked on the overall evaluation form are included below and provided in **Tables 5.1.6-1** through **5.1.6-6**.

Table 5.1.6-1 summarizes boater responses assessing flow levels for various whitewater boating opportunities on the West Fork. Boaters indicated a flow range between 600 and 3,000 cfs would provide the optimal whitewater boating experience on the entire reach of West Fork (median 1,000 to 1,200 cfs). This wide flow range may be due in part to boater skill level, previous boating experiences, and personal preference of whitewater boating features. Boaters indicated the highest safe flow for their skill level and preferred craft is between 1,200 and 3,000 cfs (median 1,600 cfs). Boaters preferred a lower flow range of 600 to 1,500 cfs (median 900 to 1,200 cfs) for a standard trip and a notably higher flow range of 1,100 to 5,000 cfs (median 1,300 to 1,450 cfs) for a high challenge trip. It should be noted that the higher flow value for a high challenge trip (5,000 cfs) exceeds the highest safe flow value for the boater skill level and preferred craft (3,000 cfs). Boaters were asked to indicate their preferred flow if only one flow were to be released on the West Fork. Boater preferred flow ranged from 800 to 2,000 cfs, with the average and median nearly identical at 1,220 cfs and 1,200 cfs, respectively.

Table 5.1.6-1 Boater Preferred Flow for Whitewater Boating Opportunities on the West Fork

Statement for Entire Reach	Boater Response Range (cfs)*	Average (cfs)	Median (cfs)
What flow *range* provides the optimal whitewater boating experience	600 to 3,000	1,278 to 1,422	1,000 to 1,200
What is the highest safe flow for your skill level and preferred craft	1,200 to 3,000	1,900	1,600
What is the optimal flow for a “standard” trip	600 to 1,500	1,011 to 1,133	900 to 1,200
What is the optimal flow for a “high challenge” trip	1,100 to 5,000	2,025 to 2,075	1,300 to 1,450
If *one flow* was released for boating, what would be your optimal flow	800 to 2,000	1,220	1,200

All ten boaters stated they would return for future boating on the West Fork if their optimal flow were provided, with nine stating they would absolutely return and one stating they would probably return. Boaters were asked during which months they would return to boat the West Fork from April through November. All ten boaters would return during the summer months of June, July, and August. Nine boaters stated they would return in September, six in October, five in May, and three in both April and November. One boater commented that a flow release should be coordinated so it does not overlap with other whitewater boating opportunities in the Midwest, such as the Wausau Whitewater Park, Paddlemania and Charles City Challenge, as boaters are likely to attend these larger events.

Boaters were asked if the flows provided during the study (600 cfs and 1,200 cfs) would be suitable for boaters with a novice skill level. Boaters were asked to select “Absolutely”, “Probably”, “Maybe”, or “ No” and were given the opportunity to state which flow would be suitable. **Table 5.1.6-2** summarizes boater responses. Two boaters (20%) indicated the West Fork is absolutely suitable for novice boaters at a flow of 1,500 cfs; however, a flow release of 1,500 cfs was not included in this study. The majority of boaters (40%) indicated the West Fork is not suitable for novice boaters at 600 cfs or 1,200 cfs. These boaters stated that novice boaters should not use this reach due to the hazards at Gile Falls and the long rapids throughout; should a boater swim, it could make for a bad day.

Table 5.1.6-2 Boater Input on Study Flow Suitability for Novice Boaters

Would the flows provided today be suitable for beginner/novice boaters?				
	Absolutely	**Probably**	**Maybe**	**No**
# of Boater Responses	2 (20%)	2 (20%)	2 (20%)	4 (40%)
Recommend flow (cfs) for novice skill level	1,500	800 to 1,000	400 to 750	-

Boaters were asked if the flows provided during the study (600 cfs and 1,200 cfs) were suitable for play boating. Boaters were asked to select “Absolutely”, “Somewhat”, “Not Really”, or “No” and were given the opportunity to state which flow was or would be suitable. **Table 5.1.6-3** summarizes boater responses. Boater responses were mixed. Two boaters (20%) indicated the West Fork is absolutely suitable for play boating at both flows. The majority of boaters indicated the West Fork is somewhat suitable (30%) or not really suitable (40%) for play boating and indicated a variety of flow options for play boating ranging from 600 to 1,500 cfs. One boater indicated the West Fork is not suitable for play boating because it is shallow at 1,200 cfs, while another indicated a confident boater could perform water play in a half-slice kayak at 1,200 cfs.

Table 5.1.6-3 Boater Input on Study Flow Suitability for Play Boating

Were the flows provided today suitable for play boating?				
	Absolutely	**Somewhat**	**Not Really**	**No**
# of Boater Responses	2 (20%)	3 (30%)	4 (40%)	1 (10%)
Recommend flow (cfs) for play boating	600 and 1,200	600, 700, 800 to 1,100, and 1,200	1,200 and 1,500	-

Boaters were asked to choose their preferred methods to receive flow release information in the West Fork. Boaters could select one or more of the following communication options: email, website, call number with recorded message. **Table 5.1.6-4** summarizes boater preferences. The majority of boaters (90%) prefer to receive flow information via a website, which can include a website provided by AW, NSPW, or Facebook. Half the boaters prefer to call a number and listen to a recorded messages, while a minority of boaters (30%) would prefer email notification.

Table 5.1.6-4 Boater Preferred Communication Method for Flow Information

Communication Method	Email	Website	Call Number
# of Boater Responses	3 (30%)	9 (90%)	5 (50%)

Boaters were asked if they were aware of other whitewater boating opportunities in the area and if they were preferable to the West Fork at the study flows (600 cfs and 1,200 cfs). Three boaters provided information regarding other area opportunities, which are included in **Table 5.1.6-5**. All three area opportunities are within 15 to 30 miles of the West Fork and were identified as a Class III+ or Class IV-V by the boater(s). The boater(s) that identified the additional opportunities indicated the Black River and Presque Isle River are more challenging than the West Fork, while the Montreal Canyon along the Montreal River is not as challenging. The boater(s) also indicated the Montreal Canyon and Black River are more boatable than the West Fork, while the Presque Isle River is less boatable. One additional boater did not provide any specifics on other whitewater boating opportunities in the area but stated each run in the area has different characteristics and the decision to boat a given run is based on the flow of the others in the area.

Table 5.1.6-5 Boater Identified Additional Whitewater Boating Opportunities in the Area

Opportunity	Distance from West Fork (Gile, WI)	Difficulty Class		Compared to West Fork is this opportunity:	
		Boater Identified	American Whitewater	More Challenging	More Boatable
Montreal River Montreal Canyon	15-20 miles (near Saxon Falls, WI)	III+	II-III [26]	No	Yes
Black River*	20-25 miles (near Bessemer, WI)	IV - V	IV-V(V+) [27]	Yes	Yes
Presque River	25-30 miles (near Tula, MI)	IV - V	II-IV [28] III-V [29] IV-V [30]	Yes	No

* Opportunity identified by two boaters.

Boaters were asked to consider the 600 cfs and 1,200 cfs flow releases provided during the study and rate ten hypothetical flow releases based on their experiences and preferences to assess if the flow release would provide an acceptable boating opportunity. Boaters were asked to consider all flow-dependent characteristics that contribute to a high quality boating trip, such as boatability, challenge, play areas, safety,

[26] https://www.americanwhitewater.org/content/River/view/river-detail/2825/map, accessed September 22, 2022.
[27] https://www.americanwhitewater.org/content/River/view/river-detail/2640/main, accessed September 22, 2022.
[28] https://www.americanwhitewater.org/content/River/view/river-detail/939/main, accessed September 22, 2022.
[29] https://www.americanwhitewater.org/content/River/view/river-detail/940/main, accessed September 22, 2022.
[30] https://www.americanwhitewater.org/content/River/view/river-detail/2643/main, accessed September 22, 2022.

aesthetics, and length of run. Boaters were asked to rate each hypothetical flow as Acceptable (rating of 5), Marginal (rating of 3), or Unacceptable (rating of 1). If a boater did not have previous experience with or was unfamiliar with a particular flow, they were given the option to not rate it. Boater ratings are provided in **Table 5.1.6-6**. One of the ten boaters did not provide a response to this question; therefore, the results are based on nine boater responses.

Table 5.1.6-6 Acceptable West Fork Flow Releases for Whitewater Boating Opportunities

Hypothetical Flow Release	Acceptable (Rating 5)		Marginal (Rating 3)		Unacceptable (Rating 1)		Not Rated	Total Score	Boater Rating	
	Responses	Score	Responses	Score	Responses	Score	Responses		Average	Median
400 cfs	-	-	3	9	6	6	-	15	1.7	1
600 cfs	2	10	5	15	2	2	-	27	3.0	3
800 cfs	7	35	2	6	-	-	-	41	4.6	**5**
1,000 cfs	8	40	1	3	-	-	-	**43**	**4.8**	**5**
1,100 cfs	8	40	1	3	-	-	-	**43**	**4.8**	**5**
1,300 cfs	6	30	1	3	-	-	2	33	4.7	**5**
1,500 cfs	5	25	1	3	-	-	3	28	4.7	**5**
1,700 cfs	2	10	2	6	1	1	4	17	3.4	3
2,000 cfs	2	10	1	3	2	2	4	15	3.0	3
2,500 cfs	2	10	1	3	2	2	4	15	3.0	3

The data provided in **Table 5.1.6-6** can be analyzed a number of ways. If basing the results solely on the highest total score, boater responses suggest a hypothetical flow release of 1,000 cfs and 1,100 cfs are equally the highest acceptable option with a total score of 43 each; with 800 cfs as the second highest acceptable option with a total score of 41; followed by 1,300 cfs (33); 1,500 cfs (28); 600 cfs (27); 1,700 cfs (17); and 400 cfs, 2,000 cfs, and 2,500 cfs tied as least acceptable with a total score of 15 each.

If basing the results on the average boater rating, the top hypothetical flow release results are the same with 1,000 cfs and 1,100 cfs equally the highest acceptable option with an average rating of 4.8; followed by both 1,300 cfs and 1,500 cfs with an average of 4.7 each; 800 cfs (4.6); 1,700 cfs (3.4); 600 cfs, 2,000 cfs, and 2,500 cfs tied with an average of 3.0 each; and 400 cfs with the lowest average of 1.7. When reviewing the median boater rating, five hypothetical flow releases received a median rating of 5 (800 cfs, 1,000 cfs, 1,100 cfs, 1,300 cfs, and 1,500 cfs); four received a median rating of 3 (600 cfs, 1,700 cfs, 2,000 cfs, and 2,500 cfs); and 400 cfs received a median rating of 1.

After boaters completed the overall evaluation form, they gathered in the parking area at Kimball Town Park with NSPW personnel and Jake Ring to discuss the study and capture immediate feedback. All boaters agreed the 600 cfs flow release was too low for an enjoyable boating experience due to the number of rocks (boney), flashy holes, and long flat water sections. The 1,200 cfs flow release did provide an enjoyable boating experience; despite a number of flat water sections - Rock Cut Falls and Kimball Falls are worth it because of the fast and constant flow. Boaters stated they would not return to the West Fork to boat at 600 cfs, but definitely would at 1,200 cfs. Boaters commented they would skip Reach 1

due to the hazards at Gile Falls and begin near Reach 2 and continue through to Kimball Falls for future boating opportunities at 1,200 cfs or 900 cfs. Kimball Town Park provides the opportunity to run Kimball Falls repeatedly with a decent take-out (stairs would be preferred) and easy put-in.

Boaters appreciated the parking area, camping options, picnic tables, and portable restroom facilities at Kimball Town Park. Boaters inquired what the maximum flow at Gile Dam could be and NSPW stated a maximum of 2,500 cfs could be released from the gates. Boaters mentioned with higher flow releases, bridge clearance becomes a safety issue, especially at Gile Falls (Reach1). Boaters agreed the West Fork is not a suitable run for beginners and requires a higher boating skill level with the ability to read the water and navigate hazards. Boaters asked NSPW to consider a late summer or early fall flow release since few opportunities are available in the area/region at that time.

5.1.7 Whitewater Study Photos/Video Documentation at Each Surveyed Flow

NSPW personnel were stationed on the downstream side of Gile Dam (start of Reach 1), South Drive bridge (end of Reach 1/start of Reach 2), Center Drive bridge (end of Reach 2/start of Reach 3), and at Kimball Town Park (end of Reach 3) to photo/video document the Level 3 assessment. Representative photos of each reach at each flow releases are included in **Appendix S**. Videos of each run taken by a volunteer boater have been posted to the relicensing webpage at http://hydrorelicensing.com/gile-flowage/.

Based on NSPW observations during the study, the length of time boaters took to complete each reach at each flow release is include in **Table 5.1.7-1**. The start time is based on when the first boater entered the water or began the reach and the end time is based on when the final boater completed their take-out or passed the end marker of the reach. The boating times are approximately equal for both flow releases in Reach 1 and Reach 3; Reach 2 took over twice as long at 600 cfs than 1,200 cfs. The longer completion time can be attributed to the take-out at Center Drive bridge during the 600 cfs flow release, scouting, and the length of flat water in Reach 2.

Table 5.1.7-1 Boater Time to Complete Study Runs

First boater at put-in to last boater at take-out	Reach 1		Reach 2		Reach 3	
	600 cfs	1,200 cfs	600 cfs	1,200 cfs	600 cfs	1,200 cfs
Completion Time (minutes)	42	39	62	27	10	8

6. Impacts of Whitewater Boating Releases on Generation

Scheduled water releases from the Gile Dam, to provide whitewater recreation boating opportunities on the West Fork, have the potential to affect downstream generation at the Saxon Falls and Superior Falls Hydroelectric Projects, as well as the reservoir elevation of Gile Flowage. The West Fork is immediately downstream of the Gile Flowage Storage Reservoir. Historically, the primary objective of the Gile Flowage is to store water during periods of high inflow and release the stored water downstream to augment low river flow, primarily during the summer months, to supplement downstream power generation. Periods of high inflow occur when the combined inflow from the West Fork and main branch of the Montreal River exceed the maximum hydraulic capacity of the downstream power generating facilities. The maximum hydraulic capacity of the downstream powerhouses is 170 cfs at Saxon Falls and 220 cfs at Superior Falls.

Flow releases of 600 cfs and 1,200 cfs were run during the study. Feedback from completed boater evaluation forms and post-evaluation discussion indicate an optimal flow range for the West Fork is 800 to 2,000 cfs, while a flow release of 1,000 cfs and 1,100 cfs received the highest rating, followed by 800 cfs, 1,300 cfs, and 1,500 cfs. Boaters indicated they would travel to the West Fork for flows at 900 cfs.

Daily flow release records for the Gile Dam were reviewed from 1994 to 2020 (27 years). **Table 6-1** shows the total days, average number of days a year, and monthly frequency of the flow releases included in the study (highlighted) and preferred flow releases identified by the boaters. In general, during spring runoff or major storm events, flows released from the Gile Dam are sufficient to support whitewater boating in the West Fork at 600 cfs or 1,200 cfs (study flow releases). Spring runoff events typically occur from mid-March through mid-June, with the highest frequency typically occurring in May, followed by April, June, and March. Higher natural flow releases in July and October are likely the result of heavy rainfall events. Statistically, the higher flow events that occurred in September, November, and December were negligible and no events were noted in August.

All ten boaters would travel to the West Fork if optimal flow releases were available during the summer months of June, July, and August; nine would return in September; six in October; five in May; and three in both April and November. The months identified by 50% or more boaters are outlined in the table below. Based on boater flow release and travel preferences, May would likely provide the best opportunity for whitewater boating recreation opportunities on the West Fork.

Table 6-1 Gile Dam Flow Release to the West Fork (Data from 1994–2020)

Flow Release	Total Days (27 Years)	Average (Days/Year)	Natural Flow Occurrence Frequency per Month								
			Mar	Apr	May	Jun	Jul	Sep	Oct	Nov	Dec
≥ 600	**225**	**8.3**	**16**	**74**	**83**	**23**	**12**	**5**	**5**	**2**	**5**
≥ 800	158	5.9	5	57	65	16	11	-	4	-	-
≥ 900	128	4.7	5	47	54	15	3	-	4	-	-
≥ 1,000	121	4.5	5	43	52	15	3	-	3	-	-
≥ 1,100	96	3.6	5	31	43	12	2	-	3	-	-
≥ 1,200	**89**	**3.3**	**5**	**30**	**42**	**7**	**2**	**-**	**3**	**-**	**-**
≥ 1,300	74	2.8	5	19	39	7	2	-	2	-	-
≥ 1,500	50	1.9	4	9	30	5	2	-	-	-	-
≥ 2,000	30	1.1	4	2	21	3	-	-	-	-	-

The 600 cfs and 1,200 cfs study flows do not appear to occur in the West Fork downstream of the Gile Dam on regular or predictable basis outside of the spring runoff months. According to the flow release records from 1994 through 2020, any flow release outside of natural spring runoff events would need to be planned and would lower the reservoir elevation. The extent to which the reservoir elevation would decrease would be dependent on the amount of flow released and the duration of said release. For example, if the Gile Flowage elevation was between 1,490.0 to 1,485.0 feet National Geodetic Vertical Datum of 1929 (NGVD) during a release of 1,200 cfs for a period of three hours (approximately 300 acre-feet released), the reservoir would be expected to drop approximately 0.1 feet. At a starting elevation of 1,480.0 feet NGVD, the elevation would be reduced by approximately 0.16 feet with the same 1,200 cfs release.

Typically, the Gile Flowage is at near maximum elevation each year from the end of spring runoff until late June. A volume of 300 acre-feet released from the Gile Flowage would provide enough flow to the downstream Saxon Falls and Superior Falls Hydroelectric Projects to generate approximately 21 and 17 additional hours, respectively, at full capacity each year. The maximum capacity at Saxon Falls and Superior Falls is 1,500 kilowatts (kW) and 1,650 kW, respectively. This corresponds to a generation of approximately 31,500 kilowatt-hours (kWh) at Saxon Falls and 28,050 kWh at Superior Falls for each 300 acre-feet of flow release. If the allowable operational range for the flowage could be adjusted slightly downward to compensate for the additional elevation reduction encountered for each flow release, the impact to downstream generation could be significantly reduced eliminated entirely. It could be eliminated completely if there is enough inflow into the Gile Flowage Storage Reservoir for it to refill completely the following spring. The potential operational, recreational, and environmental impacts associated with lowering the Gile Flowage for whitewater flow releases will be further discussed in the Draft License Application.

7. References

AW. (2007). *West Branch Montreal River Internet Flow Study October 2007*. American Whitewater.

AW. (2022a, September 9). *American Whitewater*. Retrieved from Montreal C) Montreal Canyon: below Saxon Falls to Hwy. 122 (3.1 miles): https://www.americanwhitewater.org/content/River/view/river-detail/2301/main

AW. (2022b, September 9). *American Whitewater*. Retrieved from Black C) Gabbro (Baker) Falls to Narrows Park (9.86 miles): https://www.americanwhitewater.org/content/River/view/river-detail/10827/main

AW. (2022c, March 9). *American Whitewater*. Retrieved from Montreal A) Hwy.2 at WI/MI state line to Nylund Road (3.6 miles): https://www.americanwhitewater.org/content/River/view/river-detail/2941/main

AW. (2022d, March 9). *American Whitewater*. Retrieved from Montreal B) Nylund Road to Saxon Falls Dam (17.9 miles): https://www.americanwhitewater.org/content/River/view/river-detail/2825/main

AW. (2022e, March 9). *American Whitewater*. Retrieved from Montreal C) Montreal Canyon: below Saxon Falls to Hwy. 122 (3.1 miles): https://www.americanwhitewater.org/content/River/view/river-detail/2301/main

AW. (2022f, March 9). *American Whitewater*. Retrieved from Montreal, W.Fk. B) Gile Falls to Hwy. 2 (6.3 miles) (Rock Cut Falls (Railroad Rapids)): https://www.americanwhitewater.org/content/River/view/river-detail/2300/main

FERC. (2021). Federal Energy Regulatory Commission. *Study Plan Determination for the Gile Flowage Project*. September 24, 2021.

Mead & Hunt. (2022). Personnal Communication with Jake Ring. June 11, 2022.

NSPW. (2020). *Preliminary Application Document Gile Flowage Storage Reservoir Project FERC Docket No. UL20-1-000*. Northern States Power Company - a Wisconsin corporation. November 2020.

NSPW. (2021a). *Proposed Study Plan Gile Flowage Storage Reservoir Project (FERC Project No. 15055-000)*. Northern States Power Company - a Wisconsin corporation. April 2021.

NSPW. (2021b). *Revised Study Plan Gile Flowage Storage Reservoir Project (FERC Project No. 15055-000)*. Northern States Power Company - a Wisconsin corporation. August 2021.

Whittaker, D., B. Shelby, J. Gangemi. (2005). *Flows and Recreation: A Guide to Studies for River Professionals.* Whittaker, Shelby, & Gangemi, and the Hydropower Reform Coalition. October 2005.

Appendix A Gile Flowage Whitewater Recreation Flow Study Area

Gile Flowage Storage Reservoir Project
FERC Project No. 15055)

West Fork of the Montreal River
Iron County, Wisconsin

Level 3 Assessment
Whitewater Recreation Flow Study

USH 2 Bridge

Kimball Falls Park Bridge
(End of Study Area)

Study Reach 3

Center Drive Bridge

Study Reach 2

South Drive Bridge

Study Reach 1

Gile Dam
(Start of Study Area)

Whitewater Study Points of Interest

- Gile Dam
- South Drive Bridge
- W Center Drive
- Kimball Falls Park Bridge
- USH 2 Bridge

N

0 0.25 0.5 0.75 1

Miles

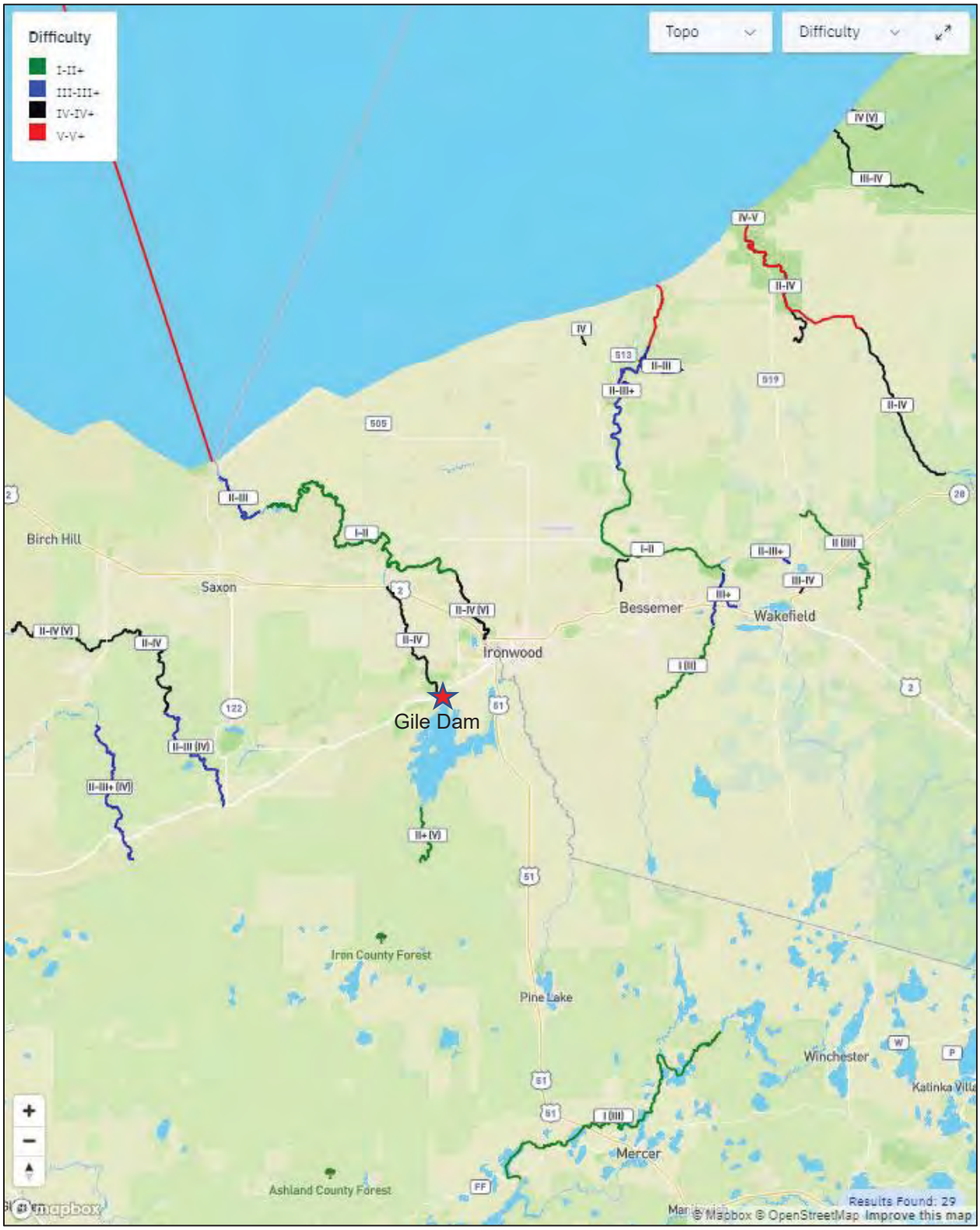
Map Note:
The distances between successive points of interest are indicated on the map in miles and are approximate. Distances were calculated using hydrographic data available on the Wisconsin Department of Natural Resources GIS Open Data Portal (data accessed March 2022). Topographic Map Source - ESRI

Document Path: \\corp.meadhunt.com\shared\folders\enp\240\0100\156398.01\TECH\Gile\Study Information\Study Protocol\Whitewater Flow\04_Gile_Whitewater_Study_Levels 1 2 3\Level 3 Assessment\Study Maps\Gile\WhitewaterStudy_Agency_Invite.mxd

Appendix B Level 1 Assessment – Literature Review American Whitewater

American Whitewater River Info Interactive Map

https://www.americanwhitewater.org/content/River/view/river-index (accessed March 9, 2022)



American Whitewater River List (name, class, section)

Information is based on Interactive Map extent on previous page:

- Black - II-III+
  D) Narrows Park to Conglomerate Falls (8 miles)
- Black - IV-V (V+)
  E) Lower: Conglomerate Falls to Lake Superior (2.0-2.6 miles)
- Black - I-II
  C) Gabbro (Baker) Falls to Narrows Park (9.86 miles)
- Black - II-III
  B) Upper: Ramsey (Mill St) to Gabbro (Baker) Falls (2.42 miles)
- Black - I (II)
  A) E7178 (Elm Lane) to Ramsay (Mill St, Old US2) (6.0 miles)
- Black, Little - III+
  Stub off US2 to Black River above Gabbro (2.35 miles)
- Carp (Porkies) - IV (V)
  Above Shining Cloud Falls to Lake Superior (1.7 miles)
- Copper Creek - II-IV
  Logging road to Presque Isle (2.6 + 4.75 miles)
- Jackson Creek - II (III)
  Morgan Mine Road to CR519 (8 miles)
- Lake Superior - I-V
  Various 'South Shore' (Wisconsin) locations
- Little Carp (Porkies) - III-IV
  Greenstone Falls trail to Lake Superior (5.5 miles)
- Maple Creek - IV
  Unknown/unnamed Road to Maple Creek Road (1.3 miles)
- Montreal - II-III
  C) Montreal Canyon: below Saxon Falls to Hwy. 122 (3.1 miles)
- Montreal - II-IV (V)
  A) Hwy. 2 at WI/MI state line to Nylund Road (3.6 miles)
- Montreal - I-II
  B) Nylund Road to Saxon Falls Dam (17.9 miles)
- Montreal, W.Fk. - II-IV
  B) Gile Falls to Hwy.2 (6.3 miles) (Rock Cut Falls (Railroad Rapids)
  (Note: part of this run is included in the Whitewater Study, more details provided below)
- Montreal, W.Fk. - II+ (V)
  A) ? (Logging Road?) to Spring Camp Road (3.76 miles)
- Planter Creek - II-III+
  B) Hwy.519 to conf.w.Jackson Creek (2.2 miles)

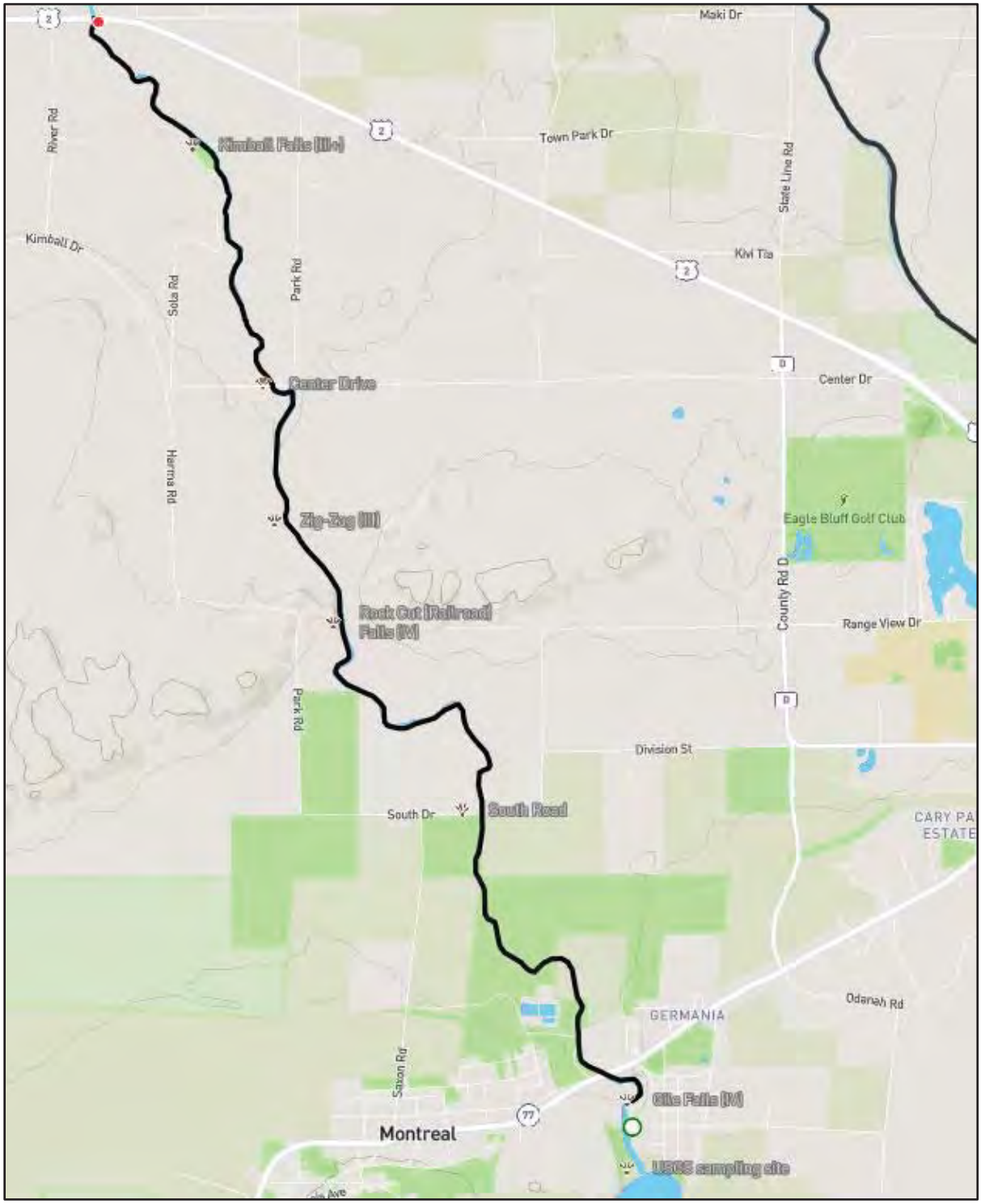
- Planter Creek - III-IV
  A) Hwy.28 to Wertanen Rd (0.15-0.96 miles)
- Potato - II-IV
  B) Foster Falls (Sullivan Rd) to Hwy.169 (7.5 miles)
- Potato - II-III (IV)
  A) Upson Falls to Foster Falls (Sullivan Rd) (2.5 or 7.2 miles)
- Potato - II-IV (V)
  C) Hwy.169 to Potato River Rd (6.5 miles)
- Powder Mill Creek - II-IV+
  above Powderhorn Falls to Cty.513 (2 miles)
- Presque Isle - III-V
  C) Steigers Bridge to South Boundary Road (8.2 miles)
- Presque Isle - II-IV
  B) Underwood Tower Rd to Steigers Bridge (7.5 miles)
- Presque Isle - IV-V
  D) 'Bottom Presque': South Boundary Rd to Lake Superior (1.1 miles)
- Sand Island Creek - II-III
  logging road (off of Camp 6 road) to Black River (2 + 1 miles)
- Turtle - I (III)
  Shays Dam to CTH.FF (Turtle/Flambeau Flowage) (16.5 miles)
- Tyler Forks - II-III+ (IV)
  A) Moore Park to Vogues Rd (up to 8.5 miles)

American Whitewater Details for Montreal, W.Fk. - II-IV

The following information is provided from the American Whitewater's webpage at American Whitewater or https://www.americanwhitewater.org/content/River/view/river-detail/2300/map (accessed March 9, 2022).

Montreal, W.Fk.

B) Gile Falls to Hwy.2 (6.3 miles) (Rock Cut Falls (Railroad Rapids))



The information provided below is copied verbatim from the “General” tab at https://www.americanwhitewater.org/content/River/view/river-detail/2300/main (accessed March 9, 2022).

River Description

Tough to catch with water, but contains one of the longest IV- rapids in the state.

Some river guide descriptions break the run into two sections, using Kimball Town Park as the intermediate take-out/put-in. This shortens the upper trip to 5.0 miles, and yields a 'section 2' run with 1.5 miles of II-III rapids (down to just below Hwy.2) followed by about a mile of much lesser gradient before the confluence with the main Montreal River (midway through a described reach of that river). Breaking this reach as described here, you get virtually all of the whitewater on the West Fork in one reach.

Alternatively, put-in may be possible from backroads north of the town of Montreal, skipping Gile Falls and thus also skipping 1.6 miles of flatwater.

Gile Falls (at/near the put in) is a scenic area where the river is squeezed between rock walls to plunge over a short falls. At most boatable flows you will be best advised to avoid the reversal that forms here by skirting as far left as possible. Just downstream, the river is diverted 90 degrees left through vertical walls of rock.

Much flatwater intervenes until ***Rock Cut Falls (a.k.a. Railroad Rapids)*** *is encountered. Scouting is highly advised, as this area has been known to collect snags. There are virtually no eddies to the bridge, and only a few small ones below. A great series of (almost unavoidable) offset holes in a relatively narrow boulder-lined channel lead to a bit of slack water under the (defunct) railroad bridge. The action resumes (only slightly diminished) leading to a river-right ledge and rock jumble creating a final slide into a pool.*

A short distance downstream, another river-wide irregular ledge creates a fairly nasty reversal at most runnable levels. The best route is a 'sneak' well to the right, with a short boof ledge, then enjoying the rapids which lead toward and past a fine rock outcropping on the right. Fairly continuous I-II action and flat but swift water will bring you to Kimball Falls, easily recognized by the clearing and park buildings on the left. Again, take out well in advance to scout. A fun series of small ledges lead down to a bridge, immediately after which the river is twisted and contorted into wrapping diagonal waves funneling into a final, wicked-looking hole.

Use the park at Kimball Falls (above or below the drop) as a short-run take-out, or proceed the next 1.5 miles through fairly continuous I-II action (with a couple boat-scoutable larger drops bordering on III) to the Hwy.2 bridge. A sweet, surfable wave forms in the downstream end of the culvert to finish off your trip.

River Features

USGS Sampling Site

USGS lists a sampling site just downstream of the Gile Flowage dam, showing drainage at this point as 78 square miles.

Put-In

Location: 46.42839216292123, -90.22770881652832

Gile Falls

Class: IV

Gile Falls (at/near the put in) is a scenic area where the river is squeezed between rock walls to plunge over a short falls. At most boatable flows you will be best advised to avoid the reversal that forms here by skirting as far left as possible. Just downstream, the river is diverted 90-degrees left through vertical walls of rock.

South Road

Alternate put-in, skipping Gile Falls and ~1.75 miles of flat water.

Rock Cut (Railroad) Falls

Class: IV

Just past a short zig-zag you'll come to a powerline crossing/clearing. Almost immediately you'll want to get out and scout from river-right (where the 'Iron Horse Trail' passes through). This is one of Wisconsin's (and among the upper Midwest's) longest class IV rapids (nearly an unrelenting quarter-mile). The narrow channel is filled with action, with only a brief pause right at the (defunct) railroad bridge (now part of the 'Iron Horse Trail'). Downstream of the bridge, the channel is slightly wider and the action slightly more manageable than above the bridge.

Zig-Zag

Class: III

As the river takes a sweeping right-hand bend, it encounters a few good bedrock intrusions (ledges). At some flows, there will be keepy-looking holes, but there are sneak-routes available.

Center Drive

Mostly just as a 'way point' to measure progress, but could also be an alternate (emergency) access.

Kimball Falls

Class: III+

Located in a county park, the lead-in is a bit less-than straightforward. Get out (river-left) to scout well-before the bridge. As you pass under the bridge (which no longer allows vehicular traffic, but provides access to the park) the main drop has a steep wrapping wave to the right, a fine tongue leading to a diagonal wave/hole below.

West Branch Montreal River Internet Flow Study, dated 10/30/2007, accessed March 1, 2002 from https://www.americanwhitewater.org/content/Article/view/article_id/29874/display/full/

AMERICAN WHITEWATER

Flow Study Completed for West Branch Montreal

Posted: 10/31/2007
By: Thomas O'Keefe

The West Branch of the Montreal is a low-volume river located on the south shore of Lake Superior in northern Wisconsin, USA. On the stretch of the West Branch between Gile Falls and Highway 2 a popular class IV- whitewater run exists. Although this stretch hosted the National Wildwater Championships in 1992 and the Pan Am races in the early 1980's, paddlers can generally only find adequate flows for whitewater runs during a week or two in early spring when the reservoir upstream spills.

Dam operations upstream of Gile Falls could allow for scheduled whitewater releases into the West Branch providing additional paddling opportunities in the Lake Superior area. To explore this possibility an internet flow survey was conducted between the spring of 2006 and 2007. Results of the survey provided information on optimal flows for whitewater recreation.

Local volunteers will be able to use this report and the information provided in their discussions with the utility and local community. While the Gile Flowage is not part of a federally-licensed hydropower facility there may be opportunities to provide recreational opportunities on this great river. The project has been used to provide flows for recreation in the past and paddlers throughout the region have expressed interest in future opportunities. The report provides a common framework for those discussions to take place.

The report was prepared by AW member Evan Stafford. We thank all our members and supporters who provided information and feedback on this study.

Thomas O'Keefe

AMERICAN WHITEWATER
PO BOX 1540
CULLOWHEE, NC 28723

WEST BRANCH MONTREAL RIVER INTERNET FLOW STUDY OCTOBER 2007

EVAN STANFORD and THOMAS O'KEEFE

AMERICAN WHITEWATER
www.americanwhitewater.org

ABSTRACT

The West Branch of the Montreal is a low-volume, popular class IV-whitewater river located on the south shore of Lake Superior in northern Wisconsin, USA. Those seeking whitewater recreation can generally only find adequate flows during a week or two in early spring when the reservoir upstream spills. In this study researchers have utilized the structural norm approach and impact acceptability curves to examine instream flows for recreation on the West Branch of the Montreal. The range of acceptable flows, as determined by the impact acceptability curve was from 400-1,000 cfs. All average evaluations for flows between these levels were above the neutral line. 600 cfs received the highest average evaluation and is therefore considered to be the optimal flow. According to these data, a release of 600 cfs would appeal to the greatest variety of river users. Dam operations upstream of Gile Falls could allow for scheduled whitewater releases into the West Branch extending the recreation season for paddling in the Lake Superior area.

KEY WORDS

instream flows, flow management, recreation flows, flow study

INTRODUCTION

The West Branch of the Montreal is a low-volume river located on the south shore of Lake Superior in northern Wisconsin, USA. On the stretch of the West Branch between Gile Falls and Highway 2 a popular class IV- whitewater run exists. Although this stretch hosted the National Wildwater Championships in 1992 and the Pan Am races in the early 1980's, paddlers can generally only find adequate flows for whitewater runs during a week or two in early spring when the reservoir upstream spills.

Researchers have utilized the structural norm approach and impact acceptability curves to examine instream flows for recreation on a variety of river stretches across the United States including the Grand Canyon of the Colorado River in Arizona (Whittaker & Shelby, 2002). River managers can manipulate instream flows through controlled dam releases. On river stretches where manipulation is possible, flow management has become a central issue in recreation management. Dam operations upstream of Gile Falls could allow for scheduled whitewater releases into the West Branch extending the recreation season for paddling in the Lake Superior area. To explore this possibility an internet flow survey was conducted between the spring of 2006 and 2007.

Whitewater paddlers who responded to the internet survey were enthusiastic about the possibility of scheduled releases. Many expressed difficulty in predicting runnable flows for the West Branch and some respondents had never done the run due to the extremely short season when adequate flows spilled from the dam. Respondents articulated a need for whitewater opportunities in the warm weather summer months in the upper Midwest and many were willing to travel long distances for scheduled releases on the weekend. Results from the impact acceptability curve suggest that instream flow releases of 600-1,000 cfs would be acceptable to a majority of river users. A Saturday release was favored by 56% of respondents and the average preferred time and duration for instream releases were 10am and 6 hours respectively.

METHODS

The structural norm approach is a technique used to represent social norms graphically. Structural characteristics of norms are displayed visually through a device referred to as an impact acceptability curve. This visual representation has proven useful to the process of communicating normative concepts to resource managers. The potential for conflict index (PCI) developed by Manfredo, Vaske, and Teel (2003) advanced the graphic representation of social norms by visually displaying information about their central tendency, dispersion and form simultaneously (Vaske, Needham, Newman, Manfredo, & Petchenik, in press).

Instream flow is the amount of water in a river at a given time. Understanding the relationship between instream flows and resource values can aid in the creation of standards for recreation use (Whittaker & Shelby, 2002). Using the structural norm approach, impact acceptability curves and the PCI (Figures 1 & 2) researchers have described optimum flows, ranges of tolerable flows, intensity and crystallization (i.e., respondent agreement) for numerous specific river settings (Shelby, Vaske, & Donnelly, 1996; Whittaker, Shelby, & Abrams, in press). The impact acceptability curve takes norms related to the acceptability of specific instream flows, measured at the individual level and then aggregates them to describe social norms by plotting the averages of individual's response evaluations (Shelby et al., 1996). The set of specific instream flows measured are displayed on the horizontal axis. Average evaluations are displayed on the

vertical axis, with negative evaluations on the bottom, a neutral line in the middle, and positive evaluations on top (Whittaker & Shelby, 2002).

The highest point or peak of the curve represents the optimum flow. The range of flows with average evaluations above the neutral line represents the range of tolerable flows. The points where the curve intersects with the neutral line define the standards to be associated with too high and too low a flow. The relative distance of the curve in relationship to the neutral line defines the intensity of a norm. The variation among evaluations at each flow level constitutes the crystallization of the norm but is typically not visually displayed on a impact acceptability curve. In this study we use the PCI bubbles (Figure 2) to describe crystallization graphically on the curve, where the larger the PCI bubble, the less agreement between respondents and the smaller the bubble, the greater the agreement.

An internet specific instream flow survey was conducted between the spring of 2006 and 2007. The survey was advertised on the American Whitewater website through a number of articles. The Wisconsin Hoofers Outing Club also played a role in attracting respondents to the internet based survey. Individuals interested in the possibility of scheduled whitewater releases on the West Branch were invited to take part in the survey regardless of their skill level, whitewater experience, craft used or familiarity with the stretch.

A wide range of variables were measured for this study. Respondents evaluated the acceptability of 13 specific flows from the West Branch dam. The flows ranged from 100 cfs to 1,000 cfs (see Table 1 for a complete listing of flow levels measured). Each flow was evaluated on a 7-point scale: totally unacceptable (-3), moderately unacceptable (-2), slightly unacceptable (-1), neutral (0), slightly acceptable (1), marginally acceptable (2) and totally acceptable (3). Acceptable flows, optimal flows, and norm crystallization were determined for all respondents. Three release preference variables were measured including preferred release time of day (i.e. 9am, 10am etc.), preferred release duration (i.e. 1 hour, 2hours, etc.) and preferred day of release (Saturday, Sunday., or either). A set of open ended flow related variables were also measured including optimum, standard, increased challenge, and preferred release flow.

TABLE 1

Mean acceptability rating, Standard Deviation and Potential for Conflict Index value for measured specific cfs flows on the West Branch Montreal, Wisconsin, USA

Specific Flow CFS	Mean Acceptability	Standard Deviation	PCI
100	-2.82	0.40	0
150	-2.60	0.84	0
200	-2.10	1.45	0.06
250	-1.88	1.54	0.07
300	-0.90	2.13	0.40
350	-0.70	2.45	0.53
400	0	2.49	0.74
450	0.54	2.34	0.49
500	1.33	1.92	0.27
600	1.5	1.83	0.12
700	1.33	1.72	0.22
800	1.27	1.74	0.17
1000	0.83	1.80	0.28

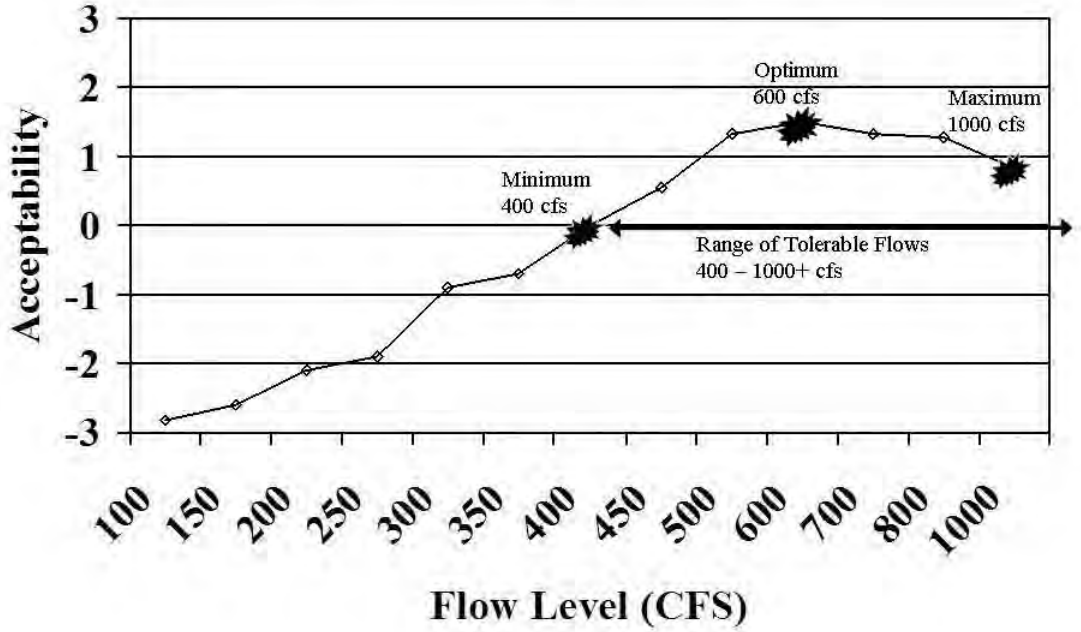
RESULTS

Under the structural norm approach, flows between 100 cfs and 350 cfs were, on average, unacceptable (Figure 1). Flows of 450 cfs and greater were within the range of acceptable flow conditions. Flows of 600, 700 and 800 cfs were considered optimal. Flows of 1,000 cfs were, on average, considered acceptable. Flows greater than 1,000 cfs were not measured. While some individuals have run the river at these higher flows these opportunities are limited and unlikely to be provided for during a controlled release.

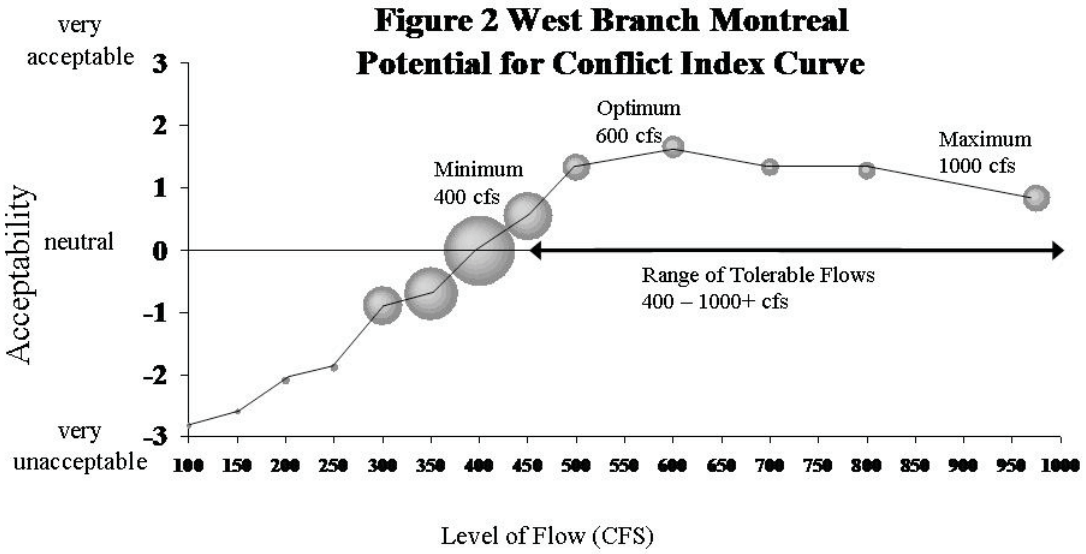
Under the set of open ended flow response questions 905 cfs was considered, on average, to be the optimum flow, with responses ranging from 400-2,500 cfs. The average standard flow was 730 cfs on average, with a response range of 400-2,000 cfs. A flow of 1,310 cfs was the average flow for an increased challenge trip, with a range of 600-5,000 cfs. The average preferred release flow was 875 cfs, with a range of 400-2,500 cfs. The average preferred duration or length of a release was on average 6 hours, with a range from 4 hours to 1 week in length. The average preferred time of day for a release was 10 am, with a range from 9 am – 1 pm. When asked what their preferred day for a release would be, 56% of respondents chose Saturday, 3% preferred a Sunday release and 41% responded that either day of the weekend was acceptable.

The Potential for Conflict Index ranges from 0 (no conflict, high consensus) to 1 (high conflict, low consensus). PCI scores for the acceptability of specific flows ranged from .00 (100 and 150 cfs), to .73 (400 cfs). Using the traditional norm acceptability curve (Figure 1), the average flow evaluation for 400 cfs was at the neutral line, suggesting that

Figure 1 Impact Acceptability Curve
West Branch Montreal



a flow of 400 cfs was within the acceptable range of flows. When the curve is displayed with PCI bubbles (Figure 2), it is apparent that some boaters evaluated a flow of 400 as unacceptable. The bubble straddles the neutral line and the PCI value is the largest measured for any of the specific flow evaluations (.73). PCI scores at the optimal flows of 600, 700, and 800 cfs were .22, .17 and .17 respectively, the lowest for any of the flows measured with average ratings above the neutral line. These relatively low PCI values (small bubbles, Figure 2) suggest that across all boaters there was considerable consensus regarding the acceptability of these optimum flow levels. PCI values, as well as mean evaluations and standard deviations, for the flows evaluated under the impact acceptability curve are displayed in Table 1.



DISCUSSION

Understanding the impact acceptability curves for river stretches where instream flow manipulation is possible is fundamental to the proper recreation management of these stretches. Instream flow releases can provide unique recreation opportunities for multiple user groups and can help flow diversion and storage operations meet their protection, mitigation and enhancement measures necessary to re-license their operations under the Federal Energy Regulatory Commission (FERC) (Whittaker & Shelby, 2002). Xcel Energy manages Gile Flowage which provides water to their Saxon Falls Hydroelectric Project and Montreal Hydroelectric Project downstream. Gile Flowage is a storage impoundment and not a licensed project, but paddlers are still interested in determining the potential for a scheduled flow release or releases.

This study was implemented to help determine the instream flow-recreation relationship and to help determine at which flow level a scheduled release would be most appropriate.

The range of acceptable flows, as determined by the impact acceptability curve (Figure 1), is from 400-1,000 cfs. All average evaluations for flows between these levels were above the neutral line. 600 cfs received the highest average evaluation (1.5) and is therefore considered to be the optimal flow. According to these data, a release of 600 cfs would appeal to the greatest variety of river users.

Where respondents were able to identify flow characteristics in an open ended response format, average flow evaluations were slightly higher. This combined with the above neutral acceptability evaluation on the impact acceptable curve for 1,000 cfs, suggests that there is a significant population of river users who would prefer higher flow releases. When asked directly what flow level would be their preferred release, the range of responses was from 400-2,500 cfs, with a mean of 875 cfs. Respondents interested in release flows over 1,000 cfs were most likely looking for an increased challenge whitewater experience. Evidence of this phenomenon comes from the mean response to an open ended, preferred flow question for an increased challenge trip of 1,310 cfs. Users who are not as experienced river runners, or who preferred a more moderate whitewater challenge, are more likely to be comfortable with flows closer to the minimum acceptable flow of 400 cfs. All river users are likely to find these lower flows to be acceptable, but more experienced and daring river users may not find the level of whitewater challenge that they are looking for.

The Potential for Conflict Index (PCI) helps to identify the agreement between respondents at each individual flow level. Table 1 and Figure 2 reveal a PCI score trend that is similar to previous studies (Vaske, Stafford, Shelby & Whittaker, in review). Users are in the most agreement at flow levels which are highly unacceptable and highly acceptable. Users are in the least agreement when average response evaluations are near the neutral line. At the instream flow of 400 cfs, users are highly divided over the acceptability of this flow for whitewater recreation. Some respondents felt that this flow was too low for a meaningful whitewater experience, while other users found this to be an acceptable flow. It is possible that the acceptability of flows on the lower end of the flow spectrum have been influenced by the limited availability of days during the year when this stretch is runnable. Some users may find lower flows acceptable because these are the only flows they have been able to catch on this stretch.

PCI scores on the higher end of the flow spectrum show strong agreement between users. Flows of 600, 700, and 800 cfs had PCI scores of .22, .17, and .17 respectively. For whitewater river running a certain amount of flow is necessary just to navigate a stretch. In general, once that minimum flow level is passed, the stretch becomes runnable up to a certain much higher level of flow, which can be dictated by a number of variables, including skill level, experience and craft type. For the West Branch Montreal the majority of river users were in agreement that flows up to and beyond 1000 cfs are acceptable and are not out of their range of acceptable flows.

This study has a number of limitations. Internet studies are by nature a biased and hard to control medium for conducting research. For instream flow related research they may prove to be acceptable because instream flow research normally does not look to sample the general population. For most studies only experienced river users are surveyed because prior research suggests that experienced boaters are more knowledgeable about how flows affect recreation attributes and are most capable of evaluating specific flows (Shelby, Brown, & Baumgartner, 1992). Reaching out to experienced users through internet surveys is a very real possibility. There is also the chance that less experienced users who are not truly capable of estimating and determining the difference between specific flow levels will respond and should therefore be considered a limitation of this

study. 63% of respondents estimated flow levels for their previous runs and 95% of respondents recalled their level of flow from memory. Flow level estimations can be a reliable source for actual levels from experienced river users, but in this study there is no way to determine the experience level of different respondents.

Another limitation to this study was the amount of respondents who had not run this stretch prior to responding to the survey. 38% of respondents had not completed the West Branch Montreal and an average of 31 respondents skipped the questions referring to specific flow levels. This can be attributed to the extremely short season for whitewater recreation on this stretch, but this also shows that there is strong interest in scheduled releases for this run. Respondents who have not completed this run were very likely the same respondents who skipped flow related questions and therefore would have little, if any affect on the variables used to determine the acceptability of instream flows.

This survey provides most, if not all of the necessary components to determine an acceptable instream flow level, a time of day, duration and day of the week for scheduled whitewater releases on the West Branch Montreal. The data strongly suggest that a minimum release level should be 600 cfs, as this flow level was found to be acceptable to the greatest variety of river users. The data also suggest that varying the flow levels released over multiple release days or a release weekend may provide for an even more varied group of river runners. An optimum release schedule for a weekend of two releases, according to this study, would begin with a release of 600 cfs on Saturday morning at 10 am and would last until 4 pm, and would have a second release day of 800-1,000 cfs on Sunday, which would begin at 10 am and would last until 4 pm. If the release schedule had to be limited to one day then a flow of 600-800 cfs should be released between 10 am and 4 pm on a Saturday. Considering this studies limitations, a follow up survey of participants is recommended subsequent to an initial whitewater release in order to obtain a more accurate instream flow – recreation relationship for the West Branch.

REFERENCES

Manfredo, M. J., Vaske, J. J., & Teel, T. L. (2003). The potential for conflict index: A graphic approach to practical significance of human dimensions research. *Human Dimensions of Wildlife, 8*, 219-228.

Shelby, B., Brown, T. C., & Baumgartner, R. (1992). Effects of streamflows on river trips on the Colorado River in Grand Canyon, Arizona. *Rivers, 3*(3), 191-201.

Shelby, B., Vaske, J. J., & Donnelly, M. P. (1996). Norms, standards, and natural resources. *Leisure Sciences, 18*, 103-123.

Vaske, J. J., Stafford, E. J. Shelby, B., & Whittaker, D. (2006). Extending the structural norm approach using the Potential for Conflict Index. Unpublished manuscript.

Vaske, J. J., Needham, M. D., Newman, P., Manfredo, M. J., & Petchenik, J. (in press). Potential for conflict index: Hunter's response to chronic wasting disease. *Wildlife Society Bulletin.*

Whittaker, D., & Shelby, B. (2002). Evaluating instream flows for recreation: Applying the structural norm approach to biophysical conditions. *Leisure Sciences, 24*, 363-374.

Whittaker, D., & Shelby, B., Abrams, J. (in press). Instream flows and “angler habitat:” Flow effects on fishability on eight Pacific Northwest rivers. *Human Dimensions of Wildlife*, 11(5).

Whittaker, D., & Shelby, B., Abrams, J. (in press). Instream flows and “angler habitat:” Flow effects on fishability on eight Pacific Northwest rivers. *Human Dimensions of Wildlife*, 11(5).

Appendix C Level 1 Assessment – Literature Review Wisconsin Trail Guide

The Wisconsin Trail Guide website includes search options for Paddle Trails, which includes 20 rivers to choose from, including the Montreal River. The information provided below is copied verbatim from https://wisconsintrailguide.com/paddle/montreal-river.html (accessed March 14, 2022).

Montreal River

(MO1) Montreal River Canyon

Distance: 3.2 miles
Skill Level: Advanced
Whitewater: Class II-IV
Approx. Paddle Time: 2+ hours
Elevation Drop: 168 feet
Average Gradient: 52.5 fpm

Trail Review

Many consider this as one of the premier, advanced whitewater runs in the Upper Midwest. The canyon run features long continuous stretches of wavy class II to III rapids and ledges with numerous holes and excellent play spots. At high water levels, a few of the drops and long pitches rate class IV forming large haystacks and wave trains.

Most of the three-mile stretch is through the incredibly scenic Montreal River Canyon where sheer conglomerate walls reach heights of up to 300 feet above the river. The rugged scenery in the canyon is among the best in Wisconsin. Pine, spruce and hemlock often cover the steep slopes and cliffs along with stands of birch and aspen.

While the gorge has spectacular scenery, it also creates a somewhat precarious situation, once you are committed to making the run you will not be able to change your mind. It is very, very difficult to get out of the canyon on foot after the first quarter mile. Jim Rada, author of 'Northwoods Whitewater', basically states that; in the interest of safety, "it's good to have a group mentality here" when attempting this run. Good advice.

This run should only be attempted by advanced and expert whitewater paddlers.

The Montreal River Canyon sits between two of the tallest waterfalls in the upper midwest. The first, Saxon Falls, is located just above the put-in and has a total drop of 90 feet. Unfortunately, the falls normally run at a trickle, only providing a full cascade during a dam release from the Saxon Falls Dam a short distance upstream. The second waterfall is Superior Falls, located a few hundred yards north (downstream) of the Highway 122 Landing. Superior Falls are 110 feet high over several drops. There is a scenic overlook that offers a partial view of the falls off Highway 122 on the Michigan side.

This segment of the Montreal West Branch forms part of the upper northern border between Wisconsin and the Upper Michigan Peninsula. The Montreal River is one of the few rivers in the US that flows north, emptying into Lake Superior.

The Montreal West Branch is used for Hydro-electric power which means water levels fluctuate greatly! You must call the hotline (see below) before making the run to find out when the next release is (if there is one!). During a dam release, water levels rise rapidly without warning and will change the character of the river dramatically. Always wear proper safety equipment, don't paddle alone, and be sure to let a friend or relative know where you are just in case.

Camping

Wisconsin State Park Campgrounds

Copper Falls State Park is about a 35 minute drive from the intersection of County B and Highway 122. The family campground offers 56 secluded campsites, and a group camp for tent camping (up to 40 people). This is the most scenic gorge and waterfall area in Wisconsin and the Doughboys Trail is featured in this guide.
“Ancient lava flows, deep gorges and spectacular waterfalls make Copper Falls one of Wisconsin's most scenic parks. Log buildings built by the Civilian Conservation Corps in the 1930s add to the park's charm. There is plenty to do; hiking, bicycling, picnicking, fishing and swimming. The North Country National Scenic Trail passes through Copper Falls State Park.”
_source: Wisconsin DNR.

Season

The water levels are controlled by release from the Saxon Falls Dam. Excel Energy Power Company has set up a hotline with a recorded message about current conditions at 715.893.2213.

Opinions vary when it comes to good water levels for enjoyable paddling. For experienced paddlers, the best action occurs: during a dam release; during the spring meltoff; and/or occasionally in late fall. The river is normally too shallow to navigate in summer and fall.

Exercise common sense, and know your limitations!

River Level Information

Phone Contact for Info: Excel Energy hotline (recording); 715.893.2213
USGS Website: There is no USGS River Gauge for this segment.

The “Guide MO1” link on the Montreal River (MO1) Montreal River Canyon webpage provides the following at https://wisconsintrailguide.com/paddle/pdf/guide-montreal.pdf:

MONTREAL RIVER (MO1)

Put-in	Access at Saxon Falls Powerhouse	**Elevation Drop**	168 feet
Take-out	Highway 122 Landing	**Average Gradient**	52.5 feet per mile
Distance	3.2 miles	**Minimum Suggested Flow**	250 cfs (from Excel Energy)
Approximate Time	2+ hours	**Water Level Info / Phone**	Excel Energy hotline 715.893.2213
Most Difficult Rapids	Class 2 - 4		

Paddlers' Notes

It is strongly recommended that you DO NOT paddle the Montreal River Canyon solo!

3.9 Mile **Access at Saxon Falls Powerhouse** ***River:*** After the steel footbridge, you will paddle through a stretch of class 1 rapids that continues around a left bend. The easy rapids occur intermittently for some distance downstream. The current after the powerhouse and footbridge varies with release and water levels from moderately quick to very fast. ***Shuttle:*** On County Highway B, turn north on to Saxon Falls Road. As you near the landing, a sign at an intersection reads 'boat landing' and points to the right, ignore this and continue straight ahead down a curved decline. The parking area is at the end of the road. There is a steel stairway down to the river that is fenced off with 'no trespassing' signs and a gate that is usually locked. There is a 'trail' down a very steep slope along the right side of the staircase, about 125 vertical feet down to the landing. The footing is treacherous so you should attach a rope to your boat and lower it down ahead of you. Once you are down to the riverbank, you can put-in above or below the steel footbridge. Parking, trailer turnaround, hand carry access.

3.6 Mile **Rapids (Class 2-4)** The first significant rapids occur where the river constricts into a small s-turn. The river rushes over a pair of ledges which together drop about 3 feet. When the river is running these drops can produce class 3 waves. After the drops, the river widens and slows for a short distance before entering into the first of several long stretches of exciting and challenging rapids and ledges. The river drops more than 73 feet over the next 1.4 miles.

The whitewater continues for the next 1.8 miles to the end of the canyon Many of the rapids and ledges occur where steep canyon walls rise sharply above the river. In some places, you will not be able to land and scout a route.

The water levels can vary widely from 250 cfs all the way up to 1700 cfs. These variances are due to seasonal events such as: snow melt in spring, heavy rain, ... and dam releases. You should call the hotline before attempting the run!

1.8 Mile **Canyon Ends** The Montreal River Canyon gradually gives way to low, sloping wooded banks. The river widens and becomes shallower with several long stretches of class 1 and 2 boulder gardens. During lower water conditions gravel bars appear where you can land your kayak or canoe and rest. Within approximately half a mile, the high banks give way to lowland forest and marsh as you enter the Superior Falls Flowage. Several islands appear and you will likely see more wildlife than in the canyon. Eagles and other bird life are common.

0.7 Mile **Highway 122 Landing** ***River:*** The river is calm and slow as you approach the Highway 122 Bridge. The roadside access is before the bridge on the left bank. **Do not paddle past the orange buoys!** ***Shuttle:*** The river access is located at the southeast corner of the Highway 122 Bridge. Park at the scenic overlook a few hundred yards north of the bridge on the Michigan side. Hand carry access, parking, trailer turnaround.

Superior Falls North of the dam (***downstream***), the river flows through an very scenic gorge and tumbles over several falls. There are numerous trails that lead to several scenic overlooks with awesome views of the final cascade. Do not enter the water to wade or swim period! When there is a dam release, the water rises dramatically and you will have very little time to react.

MONTREAL RIVER (MO1)

Driving Directions (Google Maps)

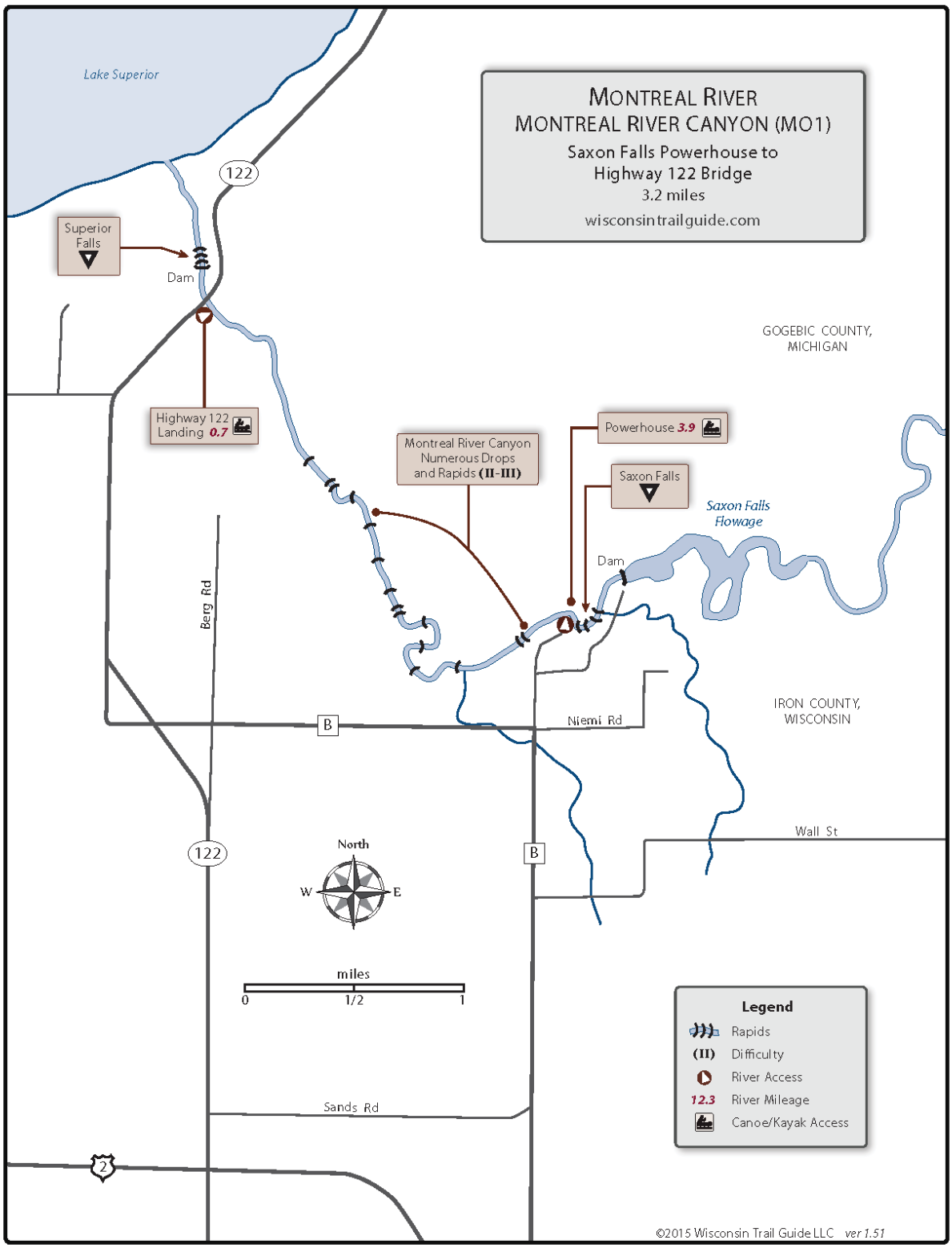
Powerhouse, River Access

Highway 122 Bridge Landing

GPS – NAD83 / WGS84

Powerhouse, River Access	46.53658,-90.37957
Class III Rapids	46.53488,-90.38429
Highway 122 Landing	46.55675,-90.41437

The “Map MO1” link on the Montreal River (MO1) Montreal River Canyon webpage provides the following at https://wisconsintrailguide.com/paddle/pdf/map-montreal.pdf:



Appendix D Level 1 Assessment – Literature Review Iron County Economic Development

Iron County Wisconsin

The Iron County Economic Development website (accessed March 14, 2022) provides a link to recreation, which includes 17 additional links, one of which is “Paddling”. The Paddling link includes additional links for Canoe and Kayak, Bear River, Flambeau River, Manitowish River, Montreal River, Turtle Flowage, and Turtle River Trail. The Canoe and Portage link (https://ironcountywi.com/canoe-and-kayak/) includes information on individual routes and indicates the Montreal River Trail – West Branch as “Expert”. The Montreal River link (https://ironcountywi.com/recreation/canoe-trips/montreal-river/) provides the following:

Appendix E Level 1 Assessment – Literature Review Midwest River Inventory

Midwest River Inventory

Archived website provided by Geocities.org showing a pictorial of the West Fork Montreal River.

https://www.oocities.org/midwestrivers/F-WI-MONTREAL.html (accessed March 9, 2022)

Midwest River Inventory

Montreal River
Montreal, WI (3 miles southwest of Hurley/Ironwood area)

West Fork

Action on the West Fork of the Montreal River starts at *Gile Falls* (above left) where a footbridge crosses the stream (seen in the background, with mining tailings 'mountain' in the distance). The main drop (seen in the left photo) tends to be a sticky pourover which can cartwheel even old-style long boats tight to river-right, while a good river-left 'sneak' presents itself at good boatable levels (as shown in the photo).

Just downstream of the falls, the river meets a wall of rock and is diverted sharply left through a sweet little dells (above right).

After *Gile Falls* you'll encounter a long uninteresting stretch of river until reaching *Rock Cut Falls*. The river is constricted between banks of large boulders, and pours through a series of offset holes, the first of which is shown above left.

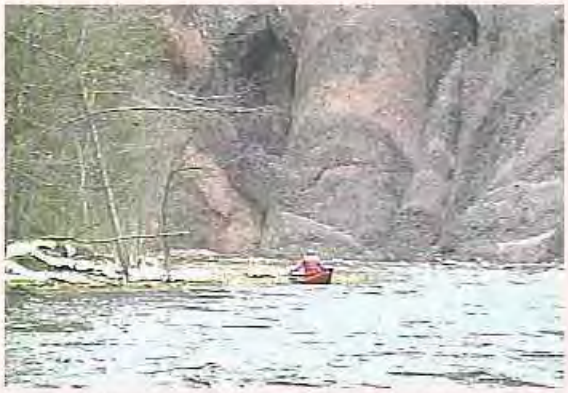
Seen from the former railroad trestle/bridge, *Rock Cut Falls* is a great, long stretch of waves and holes. The photos show the view upstream (above left) and down (above right). The action is quite continuous (class III-IV), save for a brief breather right under the bridge.

Some distance downstream, one of the few areas of some concern is a river-wide ledge/hole (shown above left). A river-right sneak is available to run this, and the rapids which follow.

The final major action on this run occurs as the river enters a small county park. A sweet series of short ledges and waves accelerate the flow toward *Kimball Falls* (above right). As seen from a one-lane bridge which crosses the river into the park, wrapping diagonal waves (over shallow jutting bedrock) precede a large V-shaped hole at the pool below. Boaters can either take out here or proceed an additional mile to culverts at Hwy.2. The remaining action is fun class II-II+, and finishes with a small wave inside the downstream end of the highway culvert.

Montreal Canyon

A run on the Montreal Canyon begins with a steep descent down a long flight of metal stairs (shown above left). At the put-in, the impressive sight of *Saxon Falls* awaits the boater. At low flows, only the river-right falls will have significant water. At moderate flows, the river-left falls kicks in. At higher flows, a narrow center falls (center frame, above right) pours between two towers of rock for a most spectacular sight.



This is one of the Midwest's best scenic play rivers, when you can catch it with good water (minimum about 700cfs, better at 1400-1700cfs). Flanked on alternating sides of the river by tall conglomerate cliffs, the river spills across numerous short ledges to form a great series of waves and holes.

Appendix F Level 1 Assessment – Literature Review AdamMartin.SPACE

AdamMartin.SPACE

The AdamMartin.SPACE website (https://adammartin.space, accessed March 14, 2022) provides photographs and descriptions of the author's outdoor experiences. The author includes information about:

- Gile Falls (https://adammartin.space/2019-gile-falls/)
- Rock Cut Falls (https://adammartin.space/?s=Rock+Cut+Falls
- Kimball Falls (https://adammartin.space/2018-kimball-falls/)
- Saxon Falls (https://adammartin.space/2018-saxon-falls/)
- Superior Falls. (https://adammartin.space/2018-superior-falls/)

The contents of each link above have been screen captured and provided below.

Gile Fall

AdamMartin.SPACE

Photo Blog with Waterfalls, Hiking, Outdoors, and other Adventures

GeoMap Destinations About

Gile Falls

2019-07-04 by Adam Martin

Quick stop but a surprisingly good one at Gile Falls in the very small mining neighborhood of Gile in Montreal, Wisconsin. To be perfectly honest I'm not sure what parts of this area are private property or public (all the maps I find are in disagreement) but there are historic signs for the Penokee Iron Range Trail and footpaths nearest the park. Don't take my word for it – be sure to check for yourself before trespassing if you visit.

It's a relatively short walk to reach the falls and you will hear rushing water quickly. Shown here are the fantastic upper falls as seen from a distance. Again I'm sure you can see this from other angles but public/private property lines are blurred here so I visited only briefly.

And from nearly the same spot here are the lower falls section. The upper falls has a more pronounced single drop whereas the lower part drops farther across a distance of maybe 100 yards. All around here are old businesses and houses – just driving by you would never know this existed!

Video

Here's a short clip of the falls in action. Enjoy!

Lat = 46.4301109 , Long = -90.2269974 -- Show at Google Maps

Rock Cut Falls

AdamMartin.SPACE

Photo Blog with Waterfalls, Hiking, Outdoors, and other Adventures

GeoMap Destinations About

Rock Cut Falls [Failed]

2019-07-04 by Adam Martin

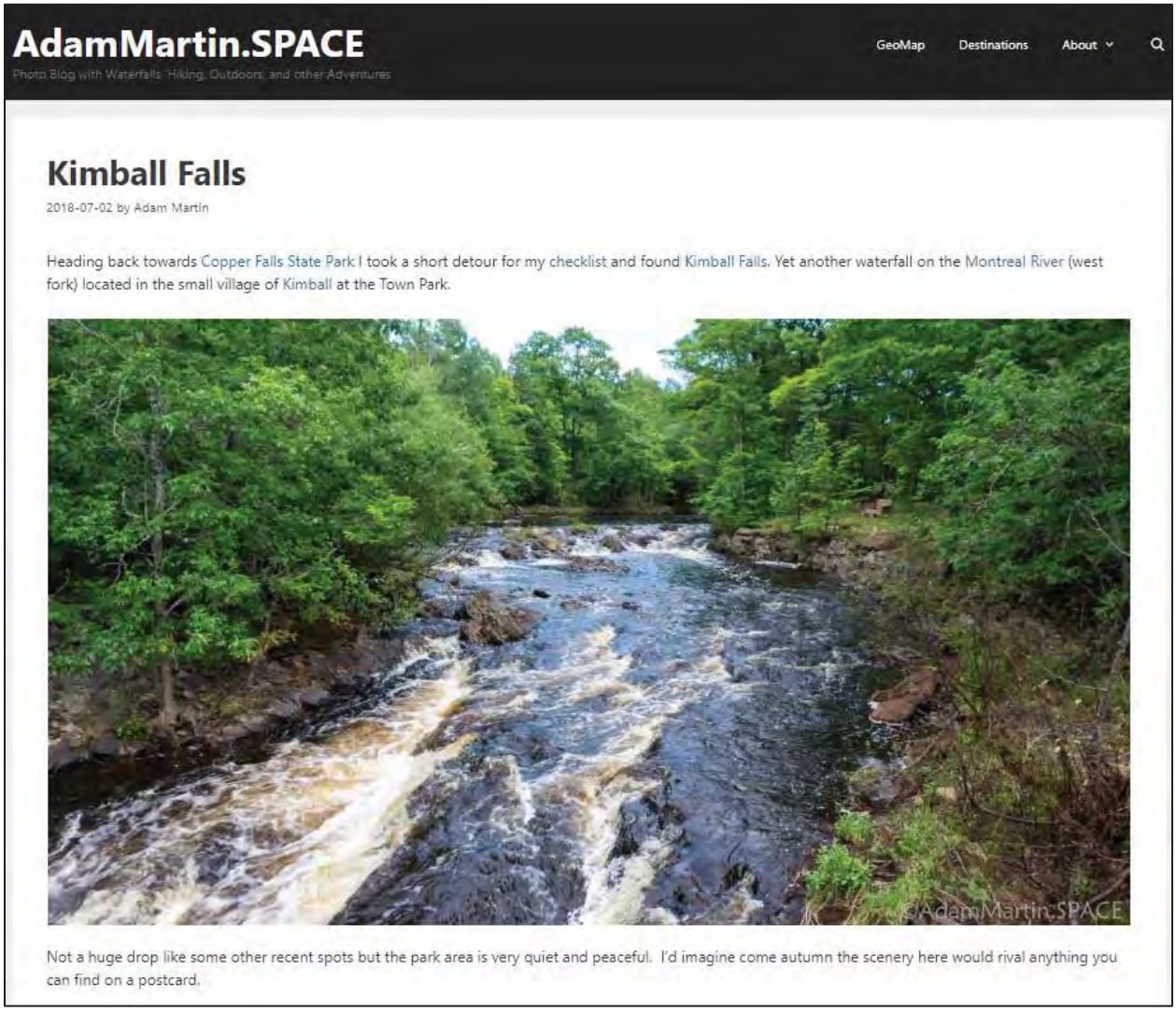
Intentionally failed visiting Rock Cut Falls in Hurley, Wisconsin because I was in the area & wanted to confirm via boots on the ground . Everything is posted "Private Property" and there is no longer public access.

Previously you could access Rock Cut Falls & Rapids via the Iron Horse trail but this is now closed (still mention on the Mercer website but obviously very outdated). Some interesting history & speculation on the topic can be found here.

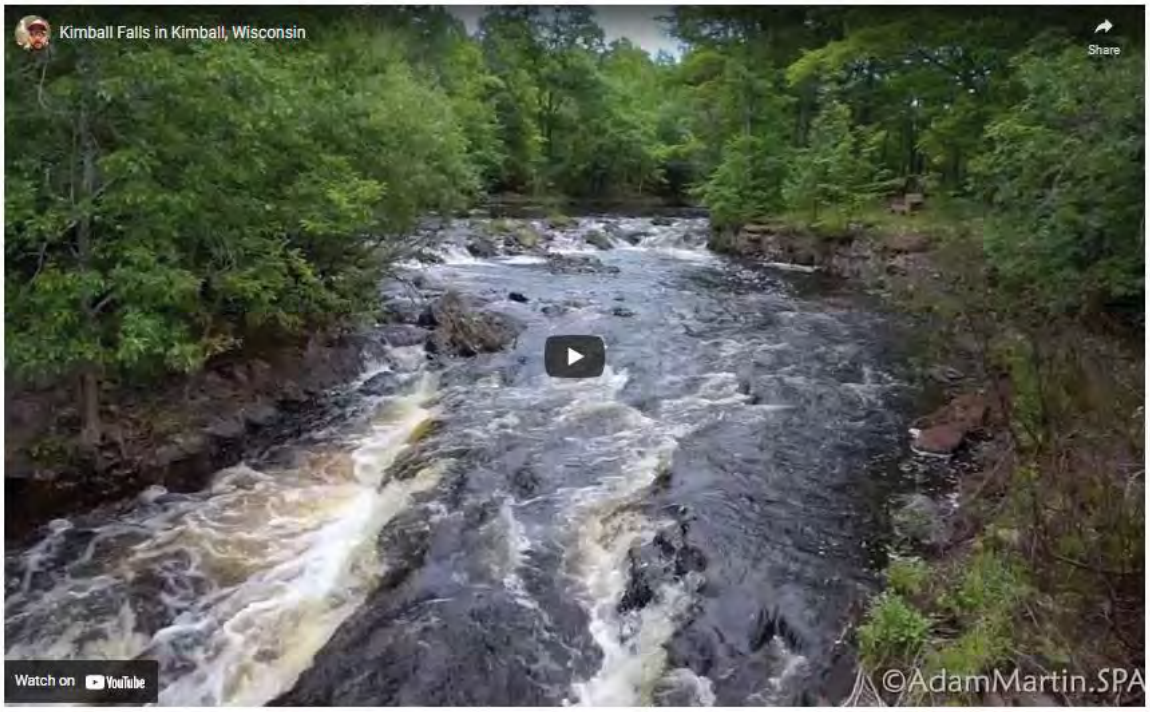
I'm not quite giving up on this one yet. Kayak access is still a possibility but I need much more research & practice (IMPORTANT: This area is reportedly quite dangerous, don't try this at home!). For now this is just a dream.

Lat = 46.4584389 , Long = -90.2523193 -- Show at Google Maps

Kimball Falls

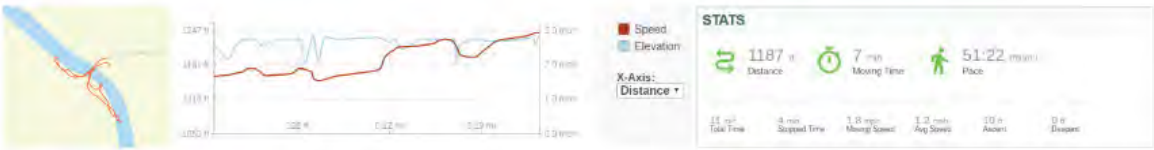


Short video of the falls in each direction:



Hiking Data

Not much of a hike – just a short stroll through Kimball's Town Park. Super easy to access and doesn't appear to get many visitors so you will likely have the place to yourself.



Lat = 46.4858398 , Long = -90.2634125 -- Show at Google Maps

Saxon Falls

AdamMartin.SPACE

Photo Blog with Waterfalls, Hiking, Outdoors, and other Adventures

GeoMap Destinations About

Saxon Falls

2018-07-02 by Adam Martin

Heading farther north and closer to the city of Hurley, Wisconsin I found myself at a hydro-power dam that I thought was a waterfall. Thankfully one of the trail signs cleared up my mistake and confirmed I was near Saxon Falls. Pipes leading from the hydro dam cross the Montreal River into Michigan and eventually meet up with a powerhouse closer to the real falls.

This area is quite beautiful with a mix of trees favoring pines. Needles cover much of the trail and the micro-climate from the river is cooler and pleasant.

Hard to photograph the trees, but as the trail nears completion you start to get glimpses of the falls through the branches.

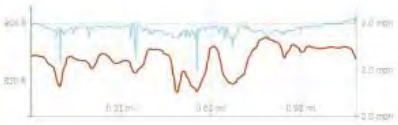
A hundred yards down, another opening in the trees and the full top section appears.

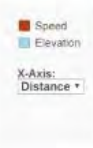
Just a little further the trail ends with a spectacular view of the full falls.

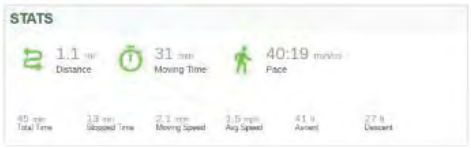
Notice in the center the water turns sharply 90 degrees and bends back downwards for the final drop. Hard to photograph that section but can be seen in the video below.

Hiking Data

Overall this is a relatively easy hike as far as physical exertion is concerned. I would caution anyone with a fear of heights (or dying) be careful near the cliff edges – seems quite easy to get close to the edge with a sense of misguided comfort while enjoying the views. Otherwise this one is quite a hidden gem!







Lat = 46.5360336 , Long = -90.3791122 -- Show at Google Maps

Superior Falls

Superior Falls

2018-07-02 by Adam Martin

Not far from Saxon Falls is another waterfall that many of the locals suggest visiting. Also located on the Montreal River at the point it flows into Lake Superior is the aptly named Superior Falls. I wasn't aware at the time you could view the falls from above, so my trip details hiking to the bottom. To get there, it takes hiking down a huge hill covered in a rough concrete runoff, around a hydro power mill, and across a rock beach that is very uneven.

View from the main rock beach is impressive but I wanted to see more.

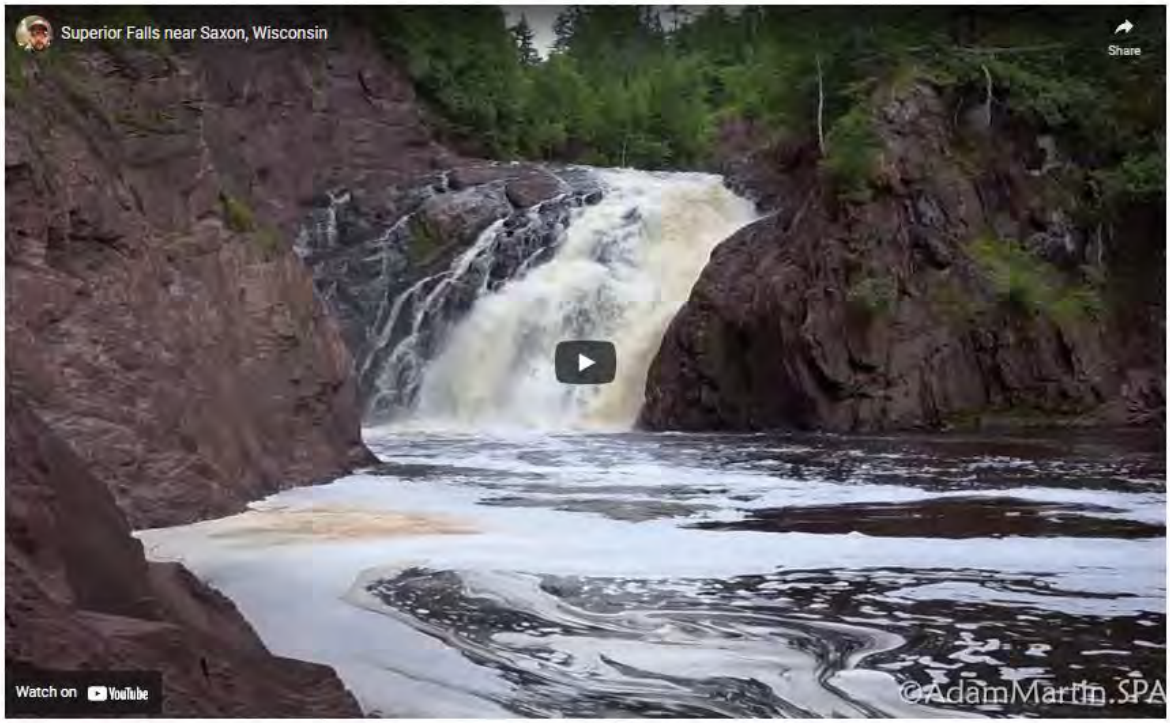
Here's where the pucker factor amps up: to reach the final alcove for a front-on view of the falls, you have to become something of a tight-rope walker and carefully make your way along the rocks. One missed step and you go into the water and possibly get hurt. I forgot all my dry bags in the car – realized this when half-way around the bend!

Views are getting more impressive...

Looking up at the large rock cliffs. Shear pattern of these rocks is very interesting, almost cubic. Wouldn't want to be here when boulders fall!

Final view of the falls from a frontal perspective. Monday night at 5pm – I had the entire place to myself.

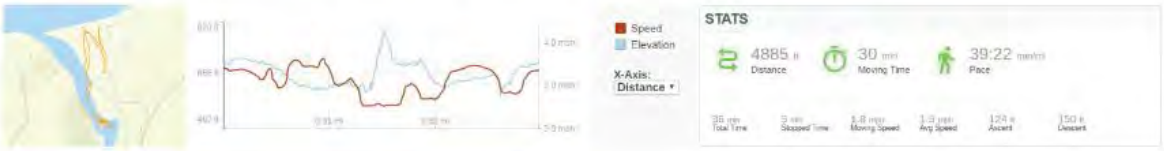
Here's a short 1 minute video at this farthest point of the lower viewpoint.



One final view of Lake Superior before hiking back up that brutal concrete sludge hill. The Montreal River is the state boundary line here – directly behind me 180° is Michigan.

Hiking Data

Not a very long hike, but the main hill down to the river/lake was not particularly fun after hiking all day. Nothing here is flat and even, and I find these kind of rocky conditions are always the most exhausting. Still totally worth it and I would go again!



Lat = 46.5624504 , Long = -90.415741 -- Show at Google Maps

Appendix G Level 1 Assessment – Hydrological Assessment

USGS Gages along the West Fork

- USGS 04028987 WEST FORK MONTREAL RIVER @ CENTER DR NR HURLEY, WI
- USGS 04029000 WEST BRANCH MONTREAL RIVER AT GILE, WI
- USGS 04029500 WEST BRANCH MONTREAL RIVER NEAR KIMBALL, WI

The USGS 04028987 gage description is shown below as a screen capture:

DESCRIPTION:

Latitude 46°28'18.6", Longitude 90°15'29.2" NAD83
Iron County, Wisconsin, Hydrologic Unit 04010302
Datum of gage: 1,298 feet above NAVD88.

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Revisions	Unavailable (site:0) (timeseries:0)		

OPERATION:

Record for this site is maintained by the USGS Wisconsin Water Science Center
Email questions about this site to Wisconsin Water Science Center Water-Data Inquiries

The USGS 04029000 gage description is shown below as a screen capture:

DESCRIPTION:

Latitude 46°25'35", Longitude 90°13'35" NAD27
Iron County, Wisconsin, Hydrologic Unit 04010302
Drainage area: 78.00 square miles
Datum of gage: 1,468.00 feet above NGVD29.

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Daily Data			
Discharge, cubic feet per second	1918-04-25	1947-09-29	4602
Daily Statistics			
Discharge, cubic feet per second	1918-04-25	1947-09-29	4602
Monthly Statistics			
Discharge, cubic feet per second	1918-04	1947-09	
Annual Statistics			
Discharge, cubic feet per second	1918	1947	
Peak streamflow	1918-05-28	1947-06-15	13
Field measurements	1918-04-25	1947-07-22	65

OPERATION:

Record for this site is maintained by the USGS Wisconsin Water Science Center
Email questions about this site to Wisconsin Water Science Center Water-Data Inquiries

The USGS 04029500 gage description is shown below as a screen capture:

DESCRIPTION:

Latitude 46°30'09", Longitude 90°16'30" NAD27
Iron County, Wisconsin, Hydrologic Unit 04010302
Drainage area: 96.00 square miles

AVAILABLE DATA:

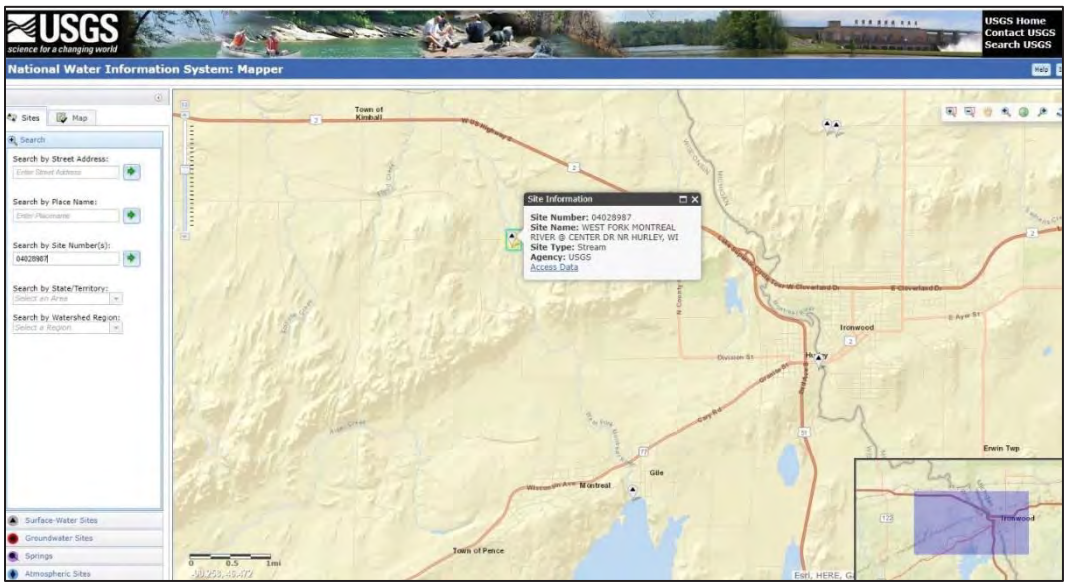
Data Type	Begin Date	End Date	Count
Daily Data			
Discharge, cubic feet per second	1924-06-26	1925-12-07	530
Daily Statistics			
Discharge, cubic feet per second	1924-06-26	1925-12-07	530
Monthly Statistics			
Discharge, cubic feet per second	1924-06	1925-12	
Annual Statistics			
Discharge, cubic feet per second	1924	1926	

OPERATION:

Record for this site is maintained by the USGS Wisconsin Water Science Center
Email questions about this site to Wisconsin Water Science Center Water-Data Inquiries

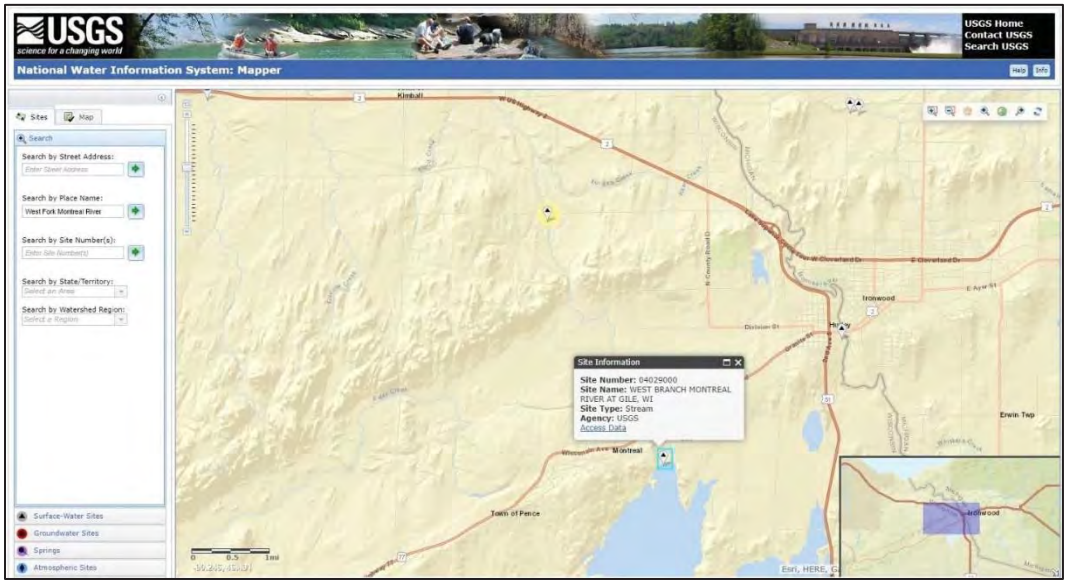
The USGS NWIS website indicates USGS Gages 04028987, 04029000, and 04029500 are maintained by the USGS Wisconsin Water Science Center. The USGS Wisconsin Water Science Center website was accessed March 16, 2022, at https://www.usgs.gov/centers/upper-midwest-water-science-center, which provides a link to the National Water Information System (NWIS) Mapper. The NWIS Mapper was accessed March 16, 2022, at https://maps.waterdata.usgs.gov/mapper/index.html, to determine the locations of USGS Gages 04028987, 04029000, and 04029500.

The location of USGS Gage 04028987 is shown below as a screen capture:



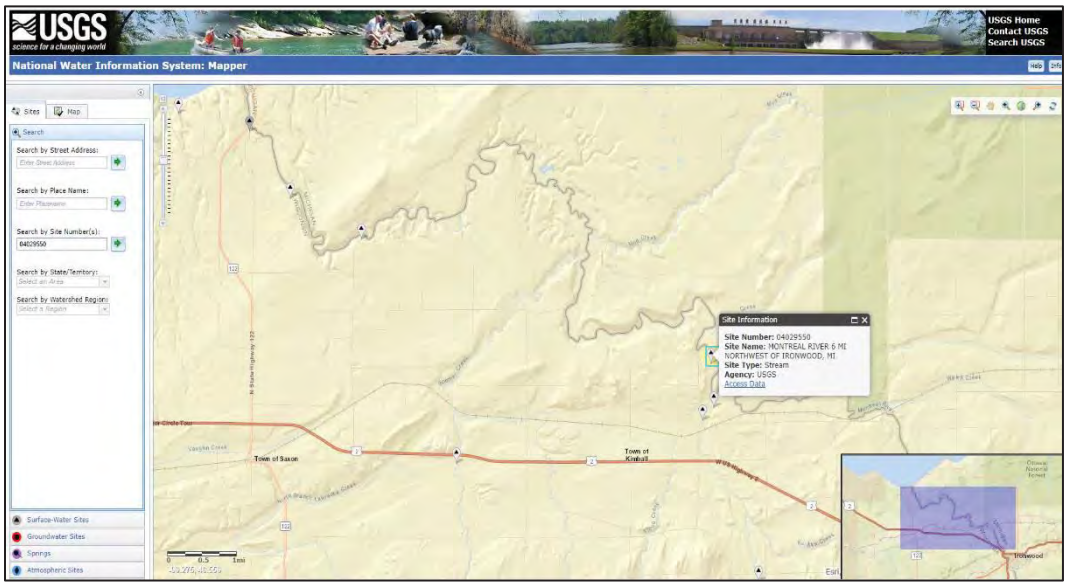
When the “Access Data” link is chosen, the website routes back to USGS 04028987 WEST FORK MONTREAL RIVER @ CENTER DR NR HURLEY, WI. NSPW concludes no data for USGS Gage 04028957 is readily available.

The location of USGS Gage 04029000 is shown below as a screen capture:



When the “Access Data” link is chosen, the website routes back to USGS 04029000 WEST BRANCH MONTREAL RIVER AT GILE, WI. NSPW concludes no data for USGS Gage 04029000 is readily available.

The location of USGS Gage 04029500 is shown below as a screen capture:



When the “Access Data” link is chosen, the website routes back to USGS 04029500 WEST BRANCH MONTREAL RIVER NEAR KIMBALL, WI. NSPW concludes no data for USGS Gage 04029500 is readily available.

USGS Gages along the Montreal

- USGS 04028500 MONTREAL RIVER NEAR KIMBALL, WI
- USGS 04029550 MONTREAL RIVER 6 MI NORTHWEST OF IRONWOOD, MI
- USGS 04029990 MONTREAL RIVER AT SAXON FALLS NEAR SAXON, WI

The USGS 04028500 gage description is shown below as a screen capture:

DESCRIPTION:

Latitude 46°30'18", Longitude 90°16'18" NAD27
Iron County, Wisconsin, Hydrologic Unit 04010302
Drainage area: 98.60 square miles

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Daily Data			
Discharge, cubic feet per second	1924-06-26	1925-12-07	530
Daily Statistics			
Discharge, cubic feet per second	1924-06-26	1925-12-07	530
Monthly Statistics			
Discharge, cubic feet per second	1924-06	1925-12	
Annual Statistics			
Discharge, cubic feet per second	1924	1926	
Field measurements	1924-06-26	1925-07-27	15

OPERATION:

Record for this site is maintained by the USGS Wisconsin Water Science Center
Email questions about this site to Wisconsin Water Science Center Water-Data Inquiries

The USGS 04029550 gage description is shown below as a screen capture:

DESCRIPTION:

Latitude 46°30'48", Longitude 90°16'21" NAD27
Gogebic County, Michigan, Hydrologic Unit 04010302

AVAILABLE DATA:

Data Type	Begin Date	End Date	Count
Field measurements	1967-07-27	1967-07-27	1
Revisions	Unavailable (site:0) (timeseries:0)		

OPERATION:

Record for this site is maintained by the USGS Michigan Water Science Center
Email questions about this site to Michigan Water Science Center Water-Data Inquiries

The USGS 04029990 gage description is shown below as a screen capture:

DESCRIPTION:

Latitude 46°32'13", Longitude 90°22'47" NAD27
Iron County, Wisconsin, Hydrologic Unit 04010302
Drainage area: 262 square miles

AVAILABLE DATA:

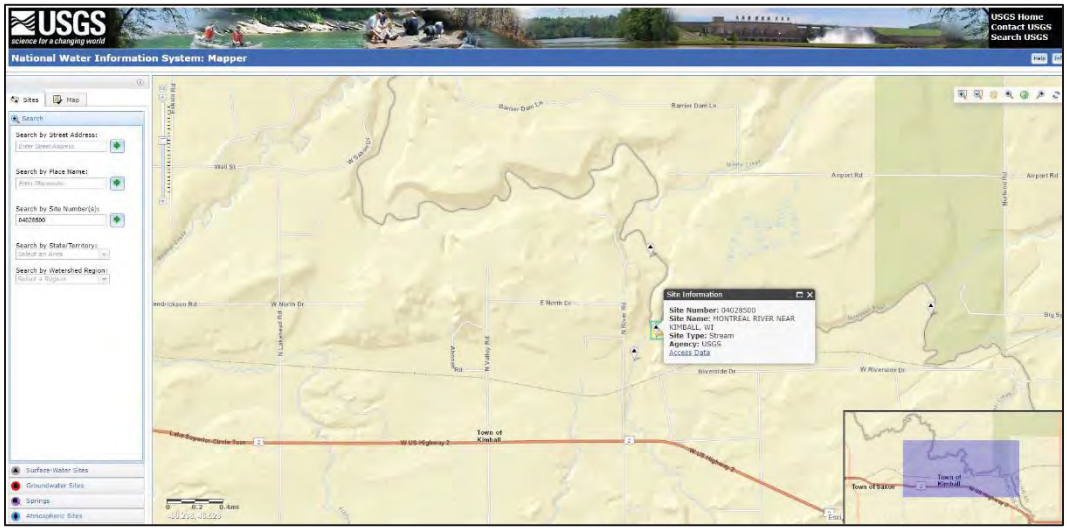
Data Type	Begin Date	End Date	Count
Daily Data			
Discharge, cubic feet per second	1986-10-01	2017-09-29	11322
Daily Statistics			
Discharge, cubic feet per second	1986-10-01	2017-09-29	11322
Monthly Statistics			
Discharge, cubic feet per second	1986-10	2017-09	
Annual Statistics			
Discharge, cubic feet per second	1987	2017	
Peak streamflow	1939-04-26	2016-07-12	61
Field measurements	1938-09-12	2017-08-23	148
Field/Lab water-quality samples	2011-08-09	2011-08-09	1
Water-Year Summary	2006	2017	12

OPERATION:

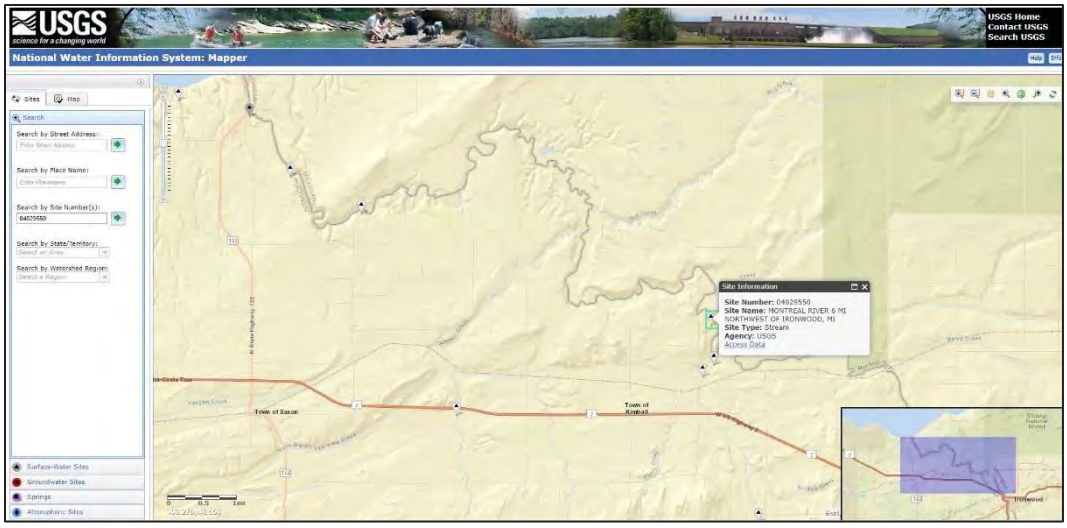
Record for this site is maintained by the USGS Wisconsin Water Science Center
Email questions about this site to Wisconsin Water Science Center Water-Data Inquiries

The USGS NWIS website indicates USGS Gages 04028500, 04029550, and 04029990 are maintained by the USGS Wisconsin Water Science Center. The USGS Wisconsin Water Science Center website was accessed March 16, 2022, at https://www.usgs.gov/centers/upper-midwest-water-science-center, which provides a link to the National Water Information System (NWIS) Mapper. The NWIS Mapper was accessed March 16, 2022, at https://maps.waterdata.usgs.gov/mapper/index.html, to determine the locations of USGS Gages 04028500, 04029550, and 04029990.

The location of USGS Gage 04028500 is shown below as a screen capture:

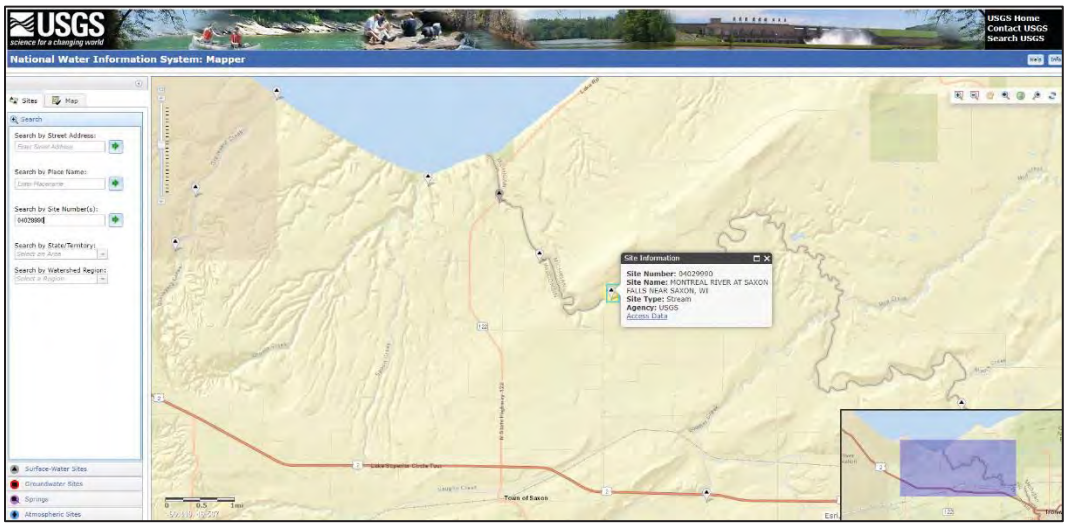


When the "Access Data" link is chosen, the website routes back to USGS 04028500 MONTREAL RIVER NEAR KIMBALL, WI. NSPW concludes no data for USGS Gage 04028500 is readily available.
The location of USGS Gage 04029550 is shown below as a screen capture:



When the “Access Data” link is chosen, the website routes back to USGS 04029550 MONTREAL RIVER 6 MI NORTHWEST OF IRONWOOD, MI. NSPW concludes no data for USGS Gage 04029550 is readily available.

The location of USGS Gage 04029990 is shown below as a screen capture:



When the “Access Data” link is chosen, the website routes back to USGS 04029990 MONTREAL RIVER AT SAXON FALLS NEAR SAXON, WI. NSPW concludes no data for USGS Gage 04029990 is readily available.

Appendix H Level 1 Assessment – Correspondence

Jen Schuetz

From: Jen Schuetz <jen.schuetz@meadhunt.com>
Sent: Monday, May 9, 2022 11:54 AM
To: jake@ringoproductions.com
Cc: Jen Schuetz
Subject: Whitewater Boating Study for the Gile
Attachments: GileWhitewaterStudy_ClassIV_Reach_Level 1_2_3.pdf

Categories: Filed by Newforma

Hello Jake:

I am assisting Northern States Power Company - Wisconsin dba Xcel Energy (Xcel) with a whitewater boating study for the Gile Flowage Storage Project (Gile), which will be similar to the study you participated in for the Saxon Falls in May 2021.

Xcel is planning to conduct the study on three reaches between the Gile Dam and Kimball Town Park (map attached). A fourth reach may be included from Kimball Town Park to US Hwy 2 based on boater input/interest.

We are hoping you will be able to participate in the Gile study, your participation was fundamental to the success of the Saxon Falls study.

Xcel is tentatively planning the Gile study for Saturday, June 11, 2022, with the potential of a second day (if needed) on Sunday, June 12, 2022.

Questions for you:

1. Are you available to participate on June 11-12?
2. If these days will not work, what are other options that will fit your schedule/availability?
    a. We are aiming for a weekend study to accommodate participant travel time. A weekday study is possible if it works for participants.
    b. The following dates do not work on our end to conduct the study: June 18-19, June 25-26, or July 1-4.
3. Are you able to locate nine or more boaters that would be available/interested in the study?
    a. Study protocol requires a minimum of 10 participants.
4. Do you have an idea of an appropriate starting flow?
    a. Study protocol states each reach will be boated under two or three different flow releases ranging between 600 - 1,000 cfs.

I look forward to hearing from you. Please let me know if you have any questions or would like more information.

Thank you,

Jen

JEN SCHUETZ
GIS AND COMPLIANCE SPECIALIST, WATER
(She, Her, Hers)
Mead & Hunt
Direct: 608-443-0460 | Transfer Files
meadhunt.com | LinkedIn | Twitter | Facebook | Instagram

Jen Schuetz

From: Jake Ring <jake@ringoproductions.com>
Sent: Monday, May 9, 2022 12:02 PM
To: Jen Schuetz
Cc: Jen Schuetz
Subject: RE: Whitewater Boating Study for the Gile

Categories: Filed by Newforma

Hi Jen,

That weekend works for me. I will put out a notice to regional whitewater paddlers and should be able to get 9 or more people to participate.
I will survey the interested paddlers and paddlers who have boated this section and see what the consensus is for optimal flow range.

What other questions do you have for me? Always happy to help.

Jake

Jen Schuetz

From: Jen Schuetz <jen.schuetz@meadhunt.com>
Sent: Tuesday, May 24, 2022 11:47 AM
To: Okeefe@AmericanWhitewater.org; tokey_boswell@nps.gov; susan_rosebrough@nps.gov; David Thomson (dave_thomson@NPS.gov); lillian_jonas@contractor.nps.gov; angietornes@gmail.com
Cc: Miller, Matthew J; Crotty, Scott A; Shawn Puzen; Darrin Johnson; Jen Schuetz
Subject: Gile Flowage Project Whitewater Recreation Flow Study
Attachments: Gile Whitewater Study_Level 3 Assessment Map.pdf

Categories: Filed by Newforma

Hello:

Per the Federal Energy Regulatory Commission Study Plan Determination for the Gile Flowage Project dated September 24, 2021, Northern States Power Company, a Wisconsin Corporation (NSPW) will be conducting a Level 1, Level 2, and Level 3 Assessment (Whittaker et al., 2005) for a whitewater flow study at the Gile Project on Saturday, June 11, 2022. Boaters will gather at the Gile Park parking lot prior to the start of the Level 2 and Level 3 Assessments, which are anticipated to start at 10 am local time.

Level 1 Assessment

The Level 1 Assessment has been completed for the three reaches on the West Fork Montreal River from Gile Dam to Kimball Town Park. The initial study report will include a summary of literature reviewed, the hydrologic assessment, and transcripts and notes from interviews with recreationists and stakeholders. Based upon the Level 1 Assessment, flows between 600 - 1,000 cfs are being targeted for the Level 2 and Level 3 Assessments, which are scheduled to be completed on June 11, 2022.

For the West Fork Montreal River reach downstream of US Highway 2 to the confluence with the Montreal River and on the Montreal River reach from the confluence to the Saxon Falls Project, NSPW will collect existing river recreation information, including other class I/II boating opportunities in the project area, public access locations and constraints to public access, and the physical attributes of the reaches from the boaters attending the Level 3 Assessment. Hydrology information will be assembled independently by NSPW for the initial study report.

Level 2 Assessment - Gile Dam to Kimball Town Park

As part of the initial Level 2 assessment in consultation with Jake Ring, flow releases for the Level 3 Assessment are anticipated between 600 – 1,000 cfs. The actual flow releases will be determined on site as part of the limited reconnaissance prior to the start of the Level 3 Assessment. NSPW has determined it is unable to resolve inconsistencies with the 2007 study unless the dates of the boating experiences rated in the 2007 study are provided by American Whitewater.

Level 3 Assessment – Gile Dam to Kimball Town Park

The Level 3 Assessment will involve a minimum of ten boaters; NSPW is currently working with Jake Ring, to assemble a boater participant list.

Boaters will evaluate up to three varying flow releases on three reaches between the Gile Dam and Kimball Town Park along the West Branch Montreal River (see attached map). The actual flow releases will be determined on site as part of the Level 2 Assessment (Limited Reconnaissance) prior to the start of the Level 3 Assessment. Water will be released from the Gile Flowage for each flow evaluated for the Level 3 Assessment.

Boaters will begin each Level 3 Assessment run at the Gile Dam and will take-out at three locations to assess the flow using a provided evaluation form. The take-out locations were determined based on the Level 1 Assessment.

Based on information gathered for the Level 2 Assessment, it was determined the Rock Cut Falls (Railroad Rapids) currently has a log jam. This area is known to collect snags (American Whitewater). If the area continues to be impassable during the study, it will have to be portaged by the boaters and noted on the evaluation forms.

Additional Information

If you have boater recommendations for this study, information beneficial for the Level 1 Assessment of the reaches downstream of US Highway 2, additional information beneficial for the Level 2 Assessment, or additional date information for the 2007 study, please send the information to Jen Schuetz with Mead & Hunt at jen.schuetz@meadhunt.com.

Any boater planning to attend or participate in the study will need to RSVP to Jen Schuetz with Mead & Hunt at jen.schuetz@meadhunt.com no later than June 3, 2022 to ensure the correct number of liability waivers and evaluation forms are available. If there are not enough liability waivers or evaluation forms available, a boater may not be able to participate in the study.

Gile Park Meeting Location

14 Park Street, Gile, WI 54525
Latitude: 46.425635°
Longitude: -90.224094°

You are also hereby invited to attend and observe the study. If you plan to attend, an RSVP is appreciated.

Thank you.

JEN SCHUETZ
GIS AND COMPLIANCE SPECIALIST, WATER
(She, Her, Hers)
Mead & Hunt
Direct: 608-443-0460 | Transfer Files
meadhunt.com | LinkedIn | Twitter | Facebook | Instagram

Jen Schuetz

From: Miller, Matthew J <Matthew.J.Miller@xcelenergy.com>
Sent: Wednesday, May 25, 2022 12:14 PM
To: Cathy Techtmann (cathyt220@hotmail.com)
Cc: Jen Schuetz; Shawn Puzen; Darrin Johnson; Crotty, Scott A
Subject: Whitewater Study

Categories: Filed by Newforma

Hello Cathy,

Xcel Energy is planning to conduct a Whitewater Flow Study below the Gile Dam on **June 11 and 12**. There will likely be a modest drop in the reservoir elevation (≈ 2"-3") during the flow releases. Below is an excerpt from the study plan. Can you please share this information with the Friends of the Gile? Let me know if you have questions.

Excerpt from Gile Whitewater Flow Study

Study Area

The study area, as identified in the Study Plan, will include three or four reaches along the West Fork Montreal River from the Gile Dam downstream to Kimball Town Park or U.S. HWY 2, as follows:

- Reach 1 – Gile Dam to South Drive Bridge (2.07 miles)
- Reach 2 – South Drive Bridge to Center Drive Bridge (2.62 miles)
- Reach 3 – Center Drive Bridge to Kimball Town Park (1.15 miles)
- Reach 4 – Kimball Town Park to U.S. HWY 2 (0.84 miles)

Study Flows

Each river reach will be boated under two or three different flow releases ranging between 600 - 1,000 cubic feet per second (cfs). Discussions about preferred flows during the Level 2 Study will be considered when determining actual flow releases to be used for the Level 3 Study. Flow releases will be calculated based on spillway gate settings at the Gile Dam so that releases can be duplicated in the future.

Study Participants

A minimum of ten volunteer boaters will be identified through coordination with local boater, Jake Ring. American Whitewater and the National Park Service will be notified at least two weeks prior to the study date so each agency may recruit additional volunteer boaters.

Boater Evaluations

Evaluation forms will be developed for use during the Level 3 Study and will include the following:

- Boater Background Information: gather information about boater skill level and preferences.
- Boater Post-Run Evaluation:
  - One form for each reach (3) and each flow release (3), for a total of 9 evaluations per boater.
  - Gather information on difficulty, enjoyment, satisfaction, navigability, challenges, portages, and safety.
- Comparative Flow Evaluation: gather information on overall experience, preferred flow releases, boating dates, and flow communication methods.

At the conclusion of each run, boaters will be asked to participate in a focus group discussion. Topics of discussion may include the following:

- Access to and use of put-in and take-out locations.
- Identification of additional access points, if needed.
- Optimal and minimum flow releases for boating.
- Ideal time of year for boating this reach.
- Reach characteristics, such as local names for rapids or features.

- Difficulty rating (Class I-V) and suitability for different types of watercraft.
- Safety concerns along the reach.
- Other boating resources in the area and how they compare.

Matthew Miller
Xcel Energy
Environmental Analyst
1414 W. Hamilton Ave., P.O. Box 8, Eau Claire, WI 54702
P: 715.737-1353 **F**: 715.737.1077
E: matthew.j.miller@xcelenergy.com

XCELENERGY.COM

Jen Schuetz

From: Cathy Techtmann <cathyt220@hotmail.com>
Sent: Wednesday, May 25, 2022 3:04 PM
To: Miller, Matthew J
Cc: Jen Schuetz; Shawn Puzen; Darrin Johnson; Crotty, Scott A
Subject: Re: Whitewater Study

Hi Matt:

Yes, I would be happy to share this info through the FOG network. We have an annual meeting coming up this Saturday and I can share the news there and also through an email blast to members.

Will you be putting out a press release on the water level drop to the local media?

Cathy

Jen Schuetz

From: Miller, Matthew J <Matthew.J.Miller@xcelenergy.com>
Sent: Thursday, May 26, 2022 1:18 PM
To: Cathy Techtmann
Cc: Jen Schuetz; Shawn Puzen; Darrin Johnson; Crotty, Scott A
Subject: RE: Whitewater Study

We had not planned for a press release. I can discuss with our media folks.

Jen Schuetz

From: Thomas O'Keefe <okeefe@americanwhitewater.org>
Sent: Wednesday, June 8, 2022 2:54 PM
To: Jen Schuetz
Cc: tokey_boswell@nps.gov; susan_rosebrough@nps.gov; David Thomson (dave_thomson@NPS.gov); lillian_jonas@contractor.nps.gov; angietornes@gmail.com; Miller, Matthew J; Crotty, Scott A; Shawn Puzen; Darrin Johnson; Jake Ring
Subject: Re: Gile Flowage Project Whitewater Recreation Flow Study

Categories: Filed by Newforma

Jen,

Thank you for the update and information. I will not be able to make it out for this but have communicated with Jake Ring and understand he anticipates sufficient turn out. Given that, I have not done any further promotion but please let me know if you need additional assistance in identifying qualified boaters. I am unclear on the meaning of this comment: "NSPW has determined it is unable to resolve inconsistencies with the 2007 study unless the dates of the boating experiences rated in the 2007 study are provided by American Whitewater." Could you clarify what inconsistencies you are trying to resolve.

I don't believe I have seen the survey instrument you will be using. My apologies if I have missed it but could you please circulate that.

The target flow range sounds right to me with the caveat you have to refine based on perspectives of those on site.

Your plan for Rock Cut Falls makes sense to me. If that site does require a portage, boaters should still do a land-based assessment of the rapid during the capture—i.e. please make sure you capture boater perspectives on attributes of the rapid at the various flows even if they are not able to run it.

Thank you,

Tom

Thomas O'Keefe, PhD
Pacific Northwest Stewardship Director
American Whitewater
3537 NE 87th St.
Seattle, WA 98115
425-417-9012
okeefe@americanwhitewater.org
@AmerWhitewater

Jen Schuetz

From: Jonas, Lilian M <lilian_jonas@contractor.nps.gov>
Sent: Thursday, June 9, 2022 6:08 PM
To: Jen Schuetz
Subject: RE: [EXTERNAL] RE: Gile Flowage Project Whitewater Recreation Flow Study

Categories: Filed by Newforma

Hello Jen,

Thank you for identifying the email issue and forwarding me the email string between you and Thomas O'Keefe. Unfortunately, I cannot attend the whitewater boating study (I'm located in N. California), but I remain active on the Project representing the National Park Service and plan to review and comment on the study report for the whitewater recreation flow study. I hope that everyone has a safe and productive trip down the W. Fork Montreal River.

Lil Jonas

Lilian M. Jonas, Ph.D.
Jonas Consulting
541-441-5045

Appendix I Level 1 Assessment – Gile Flowage Vicinity Whitewater Recreation Questionnaire

Boater participant, please complete the following:

Name:	
Affiliation:	
Zip Code:	
Email:	
Years of Experience:	

LEVEL 1 ASSESSMENT, *WEST FORK MONTREAL RIVER* (Map 1)

REACH: US HIGHWAY 2 to MONTREAL RIVER CONFLUENCE (Class I/II)

Please provide your knowledge regarding the following:

1. Have you previously boated the *West Fork Montreal River*? Yes ☐ No ☐
   a. If yes, how often do you use the West Fork Montreal River for whitewater recreation?

   b. If yes, which reach of the West Fork Montreal River do you use for whitewater recreation?
      - Reach 1: Gile Dam to US Highway 2 (yes or no)
      - Reach 2: US Highway 2 to the confluence with the Montreal River (yes or no)

   c. If yes, where do you access the West Fork Montreal River for whitewater recreation?

   d. Is there suitable access downstream of US Highway 2 to the confluence with the Montreal River for Class I/II boating opportunities?
      - If yes, where?
      - If no, where would you recommend locating an acceptable access point?

2. If you have used the West Fork Montreal River for whitewater recreation from US Highway 2 to the confluence with the Montreal River (as indicated in 1.b): (if no, skip to 3)
   a. What single flow or flow range (min to max) provides a suitable boating opportunity?

   b. What type of watercraft can be used at this single flow or flow range?

   c. What boater experience level is suitable for this single flow or flow range?

3. What characteristics, if any, of the West Fork Montreal River make it suitable for whitewater recreation for the following reaches:
   a. Reach 1: Gile Dam to US Highway 2

   b. Reach 2: US Highway 2 to the confluence with the Montreal River

4. What characteristics, if any, of the West Fork Montreal River make it unsuitable for whitewater recreation for the following reaches:
   a. Reach 1: Gile Dam to US Highway 2

   b. Reach 2: US Highway 2 to the confluence with the Montreal River

5. Additional comments, if any, for the West Fork Montreal River:

LEVEL 1 ASSESSMENT, *MONTREAL RIVER* (Map 2)

REACH: MONTREAL RIVER CONFLUENCE TO SAXON FALLS PROJECT (Class I/II)

Please provide your knowledge regarding the following:

1. Have you previously boated this reach of the *Montreal River*? Yes ☐ No ☐
   a. If yes, how often do you use this reach for whitewater recreation?

   b. If yes, where do you access this reach for whitewater recreation?

   c. Is there suitable access to this reach for Class I/II boating opportunities?
      - If yes, where?

      - If no, where would you recommend locating an acceptable access point?

2. If you have used this reach for whitewater recreation:
   a. What single flow or flow range (min to max) provides a suitable boating opportunity?

   b. What type of watercraft can be used at this single flow or flow range?

   c. What boater experience level is suitable for this single flow or flow range?

3. What characteristics, if any, of this reach make it suitable for whitewater recreation?

4. What characteristics, if any, of this reach make it unsuitable for whitewater recreation?

LEVEL 1 ASSESSMENT, BOATING OPPORTUNITIES IN THE AREA (Map 3)

Map 3 shows the watershed boundary for the Gile Project. Are you familiar with other Class I/II boating opportunities within or in the vicinity of the watershed boundary?

If yes, use the space below to provide information on those opportunities, such as location or name, river characteristics, estimated flows, public access availability or constraints, and any other information that may help characterize other Class I/II boating opportunities in this area.

Thank you for participating in the Level 1 Assessment for the Gile Project

Generally accepted whitewater difficulty class definitions:

Class I: easy but fast moving water, small waves, passages clear, no serious obstacles, perfect for all ages and abilities. Skill Level: very basic.

Class II: rough and fast moving water; rocks, small ledges, and other obstacles which might require some maneuvering. Skill level: basic paddling skill.

Class III: swift whitewater, small to medium waves, rocks, eddies, rapids with narrow but clear passages, requires significant maneuvering to navigate successfully but the consequences of error are generally minimal. Skill level: experienced guide recommended.

Class IV: challenging whitewater with powerful waves, long rapids, difficult to avoid rocks, boiling eddies; powerful and precise maneuvering required. Skill level: experienced guide required.

Class V: extreme whitewater with large waves, large volume, large rocks difficult to avoid and potentially deadly hazards, large drops often over 10 feet which require precise maneuvering. Skill level: experienced guide and experienced crew required.

Map 1

Gile Flowage Storage Reservoir Project
FERC Project No. 15055)

West Fork of the Montreal River
Iron County, Wisconsin

Whitewater Recreation Flow Study
West Branch of the Montreal River
Class I/II Whitewater Boating Reach

Reach: USH 2 Bridge to Confluence with Montreal River
Study: Level 1

Motnreal River

Confluence Montreal River
(Class I/II Reach end)

Montreal River

Dock - Private

N River Rd

1201 ft

1160 ft

Canadian National

Riverside Dr

1150 ft

Railroad Bridge

West Fork Montreal River

0.46 miles

1165 ft

1150 ft

1182 ft

USH 2 Bridge
(Class I/II Reach start)

Lake Superior Circle Tour

2

Whitewater Study Points of Interest

- US Hwy 2
- Montreal River Confluence
- Bridge - Railroad
- Dock - Private

N

0 0.05 0.1 0.15 0.2

Miles

Map Note:
The distances between successive points of interest are indicated on the map in miles and are approximate. Distances were calculated using hydrographic data available on the Wisconsin Department of Natural Resources GIS Open Data Portal (data accessed March 2022). Topographic Map Source - ESRI

Document Path: \\corp.meadhunt.com\shared\folders\emp\240010015638\01TECH\Gile\Study Information\Study Protocol\Whitewater Flow\Gile Whitewater Study Proposal Info\GileWhitewaterStudy_ClassI_IIReach_Level1_West Fork Montreal.mxd

Map 2

Gile Flowage Storage Reservoir Project FERC Project No. 15055)

West Fork of the Montreal River Iron County, Wisconsin

Whitewater Recreation Flow Study
Montreal River
Class I/II Whitewater Boating Reach

Reach: West Branch Confluence with Montreal River to Saxon Falls Dam
Study: Level 1

Saxon Falls Dam
(Class I/II Reach start)

Montreal River

MICHIGAN

WISCONSIN

Collins Creek

Mud Creek

Barnes Dam Ln

Barnes Dam Ln

W Niemi Rd

Eskola Rd

Hurtola Rd

Wall St

Wall St

Boomer Creek

W Saxon Dr

Chimon Rd

N Lakehead Rd

Saari Dr

W Hendrickson Rd

Hendrickson Rd

W Hendrickson Rd

W North Dr

Payette Rd

Canadian National

Boomer Creek

Fourcha Creek

Canadian National

N Valley Rd

Ahonen Rd

Montreal River

Airport Rd

Moore Creek

N River Rd

E North Dr

Dahlstecka Dr

Flood Creek

West Fork

Montreal River

West Brank Confluence
with Montreal River
(Class I/II Reach start)

Whitewater Study Points of Interest

- Montreal River Confluence
- Saxon Falls Dam

N

0 0.25 0.5 0.75 1

Miles

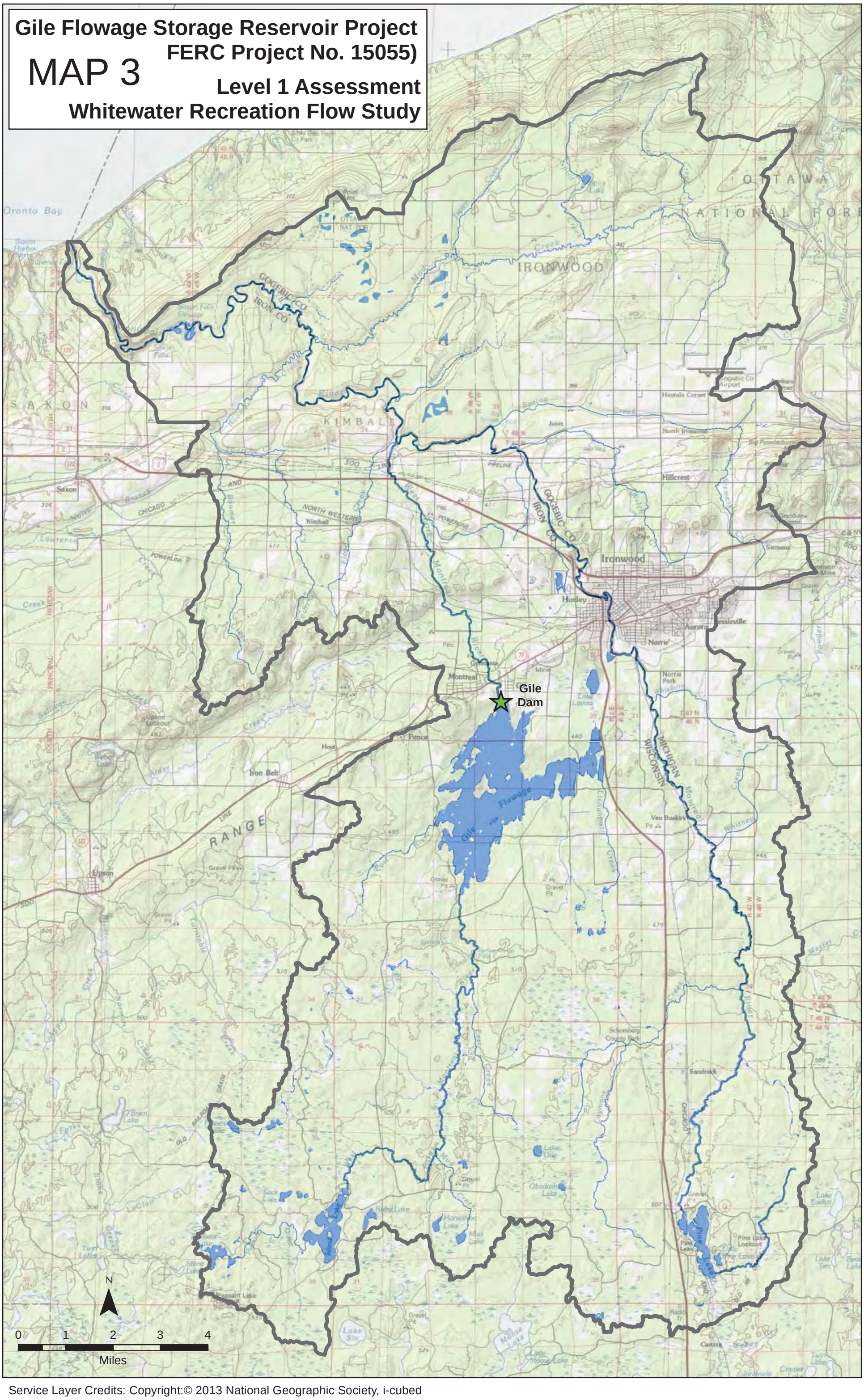
Topographic Map Source - ESRI

Document Path: X:\2400100\156338.011\TECH\Gile\Study Information\Study Protocol\Whitewater Flow\Gile Whitewater Study Proposal Info\Gile Whitewater\Study_Class_I_Reach_Level 1_Montreal_SaxonFalls.mxd

Gile Flowage Storage Reservoir Project
FERC Project No. 15055)

MAP 3

Level 1 Assessment
Whitewater Recreation Flow Study



Service Layer Credits: Copyright:© 2013 National Geographic Society, i-cubed

Completed Gile Flowage Vicinity Whitewater Recreation Questionnaire

Note:
No survey responses included documentation or markings on Map 1, Map 2, or Map 3; therefore, all maps were removed from all survey responses included in this Appendix in consideration of file size limits.

Boater participant, please complete the following:

Name:	Ben Bjorkman
Affiliation:	Kosir's Rafting
Zip Code:	49802
Email:	BenBjork@hotmail.com
Years of Experience:	7

LEVEL 1 ASSESSMENT, *WEST FORK MONTREAL RIVER* (Map 1)

REACH: US HIGHWAY 2 to MONTREAL RIVER CONFLUENCE (Class I/II)

Please provide your knowledge regarding the following:

1. Have you previously boated the *West Fork Montreal River*? Yes ☐ No ☑

   a. If yes, how often do you use the West Fork Montreal River for whitewater recreation?

   b. If yes, which reach of the West Fork Montreal River do you use for whitewater recreation?
      - Reach 1: Gile Dam to US Highway 2 (yes or no)
      - Reach 2: US Highway 2 to the confluence with the Montreal River (yes or no)

   c. If yes, where do you access the West Fork Montreal River for whitewater recreation?

   d. Is there suitable access downstream of US Highway 2 to the confluence with the Montreal River for Class I/II boating opportunities?
      - If yes, where?
      - If no, where would you recommend locating an acceptable access point?

2. If you have used the West Fork Montreal River for whitewater recreation from US Highway 2 to the confluence with the Montreal River (as indicated in 1.b): (if no, skip to 3)
   a. What single flow or flow range (min to max) provides a suitable boating opportunity?

   b. What type of watercraft can be used at this single flow or flow range?

   c. What boater experience level is suitable for this single flow or flow range?

3. What characteristics, if any, of the West Fork Montreal River make it suitable for whitewater recreation for the following reaches:
   a. Reach 1: Gile Dam to US Highway 2

   b. Reach 2: US Highway 2 to the confluence with the Montreal River

4. What characteristics, if any, of the West Fork Montreal River make it unsuitable for whitewater recreation for the following reaches:
   a. Reach 1: Gile Dam to US Highway 2

   b. Reach 2: US Highway 2 to the confluence with the Montreal River

5. Additional comments, if any, for the West Fork Montreal River:

LEVEL 1 ASSESSMENT, *MONTREAL RIVER* (Map 2)

REACH: MONTREAL RIVER CONFLUENCE TO SAXON FALLS PROJECT (Class I/II)

Please provide your knowledge regarding the following:

1. Have you previously boated this reach of the *Montreal River*? Yes ☐ No ☑
   a. If yes, how often do you use this reach for whitewater recreation?

   b. If yes, where do you access this reach for whitewater recreation?

   c. Is there suitable access to this reach for Class I/II boating opportunities?
      - If yes, where?

      - If no, where would you recommend locating an acceptable access point?

2. If you have used this reach for whitewater recreation:
   a. What single flow or flow range (min to max) provides a suitable boating opportunity?

   b. What type of watercraft can be used at this single flow or flow range?

   c. What boater experience level is suitable for this single flow or flow range?

3. What characteristics, if any, of this reach make it suitable for whitewater recreation?

4. What characteristics, if any, of this reach make it unsuitable for whitewater recreation?

LEVEL 1 ASSESSMENT, BOATING OPPORTUNITIES IN THE AREA (Map 3)

Map 3 shows the watershed boundary for the Gile Project. Are you familiar with other Class I/II boating opportunities within or in the vicinity of the watershed boundary?

If yes, use the space below to provide information on those opportunities, such as location or name, river characteristics, estimated flows, public access availability or constraints, and any other information that may help characterize other Class I/II boating opportunities in this area.

Thank you for participating in the Level 1 Assessment for the Gile Project

Generally accepted whitewater difficulty class definitions:

Class I: easy but fast moving water, small waves, passages clear, no serious obstacles, perfect for all ages and abilities. Skill Level: very basic.

Class II: rough and fast moving water; rocks, small ledges, and other obstacles which might require some maneuvering. Skill level: basic paddling skill.

Class III: swift whitewater, small to medium waves, rocks, eddies, rapids with narrow but clear passages, requires significant maneuvering to navigate successfully but the consequences of error are generally minimal. Skill level: experienced guide recommended.

Class IV: challenging whitewater with powerful waves, long rapids, difficult to avoid rocks, boiling eddies; powerful and precise maneuvering required. Skill level: experienced guide required.

Class V: extreme whitewater with large waves, large volume, large rocks difficult to avoid and potentially deadly hazards, large drops often over 10 feet which require precise maneuvering. Skill level: experienced guide and experienced crew required.

Boater participant, please complete the following:

Name:	Jason Blankenhein
Affiliation:	Sioux Falls Paddlers
Zip Code:	57110
Email:	jason.e.blankenhein@gmail.com
Years of Experience:	4

LEVEL 1 ASSESSMENT, *WEST FORK MONTREAL RIVER* (Map 1)

REACH: US HIGHWAY 2 to MONTREAL RIVER CONFLUENCE (Class I/II)

Please provide your knowledge regarding the following:

1. Have you previously boated the *West Fork Montreal River*? Yes ☐ No ☒

   a. If yes, how often do you use the West Fork Montreal River for whitewater recreation?

   N/A

   b. If yes, which reach of the West Fork Montreal River do you use for whitewater recreation?
      - Reach 1: Gile Dam to US Highway 2 (yes or no)
      - Reach 2: US Highway 2 to the confluence with the Montreal River (yes or no)

   c. If yes, where do you access the West Fork Montreal River for whitewater recreation?

   d. Is there suitable access downstream of US Highway 2 to the confluence with the Montreal River for Class I/II boating opportunities?
      - If yes, where?
      - If no, where would you recommend locating an acceptable access point?

2. If you have used the West Fork Montreal River for whitewater recreation from US Highway 2 to the confluence with the Montreal River (as indicated in 1.b): (if no, skip to 3)
   a. What single flow or flow range (min to max) provides a suitable boating opportunity?

   b. What type of watercraft can be used at this single flow or flow range?

   c. What boater experience level is suitable for this single flow or flow range?

3. What characteristics, if any, of the West Fork Montreal River make it suitable for whitewater recreation for the following reaches:
   a. Reach 1: Gile Dam to US Highway 2

   b. Reach 2: US Highway 2 to the confluence with the Montreal River

4. What characteristics, if any, of the West Fork Montreal River make it unsuitable for whitewater recreation for the following reaches:
   a. Reach 1: Gile Dam to US Highway 2

   b. Reach 2: US Highway 2 to the confluence with the Montreal River

5. Additional comments, if any, for the West Fork Montreal River:

LEVEL 1 ASSESSMENT, *MONTREAL RIVER* (Map 2)

REACH: MONTREAL RIVER CONFLUENCE TO SAXON FALLS PROJECT (Class I/II)

Please provide your knowledge regarding the following:

1. Have you previously boated this reach of the *Montreal River*? Yes ☐ No ☐
   a. If yes, how often do you use this reach for whitewater recreation?

   b. If yes, where do you access this reach for whitewater recreation?

   c. Is there suitable access to this reach for Class I/II boating opportunities?
      - If yes, where?

      - If no, where would you recommend locating an acceptable access point?

2. If you have used this reach for whitewater recreation:
   a. What single flow or flow range (min to max) provides a suitable boating opportunity?

   b. What type of watercraft can be used at this single flow or flow range?

   c. What boater experience level is suitable for this single flow or flow range?

3. What characteristics, if any, of this reach make it suitable for whitewater recreation?

4. What characteristics, if any, of this reach make it unsuitable for whitewater recreation?

LEVEL 1 ASSESSMENT, BOATING OPPORTUNITIES IN THE AREA (Map 3)

Map 3 shows the watershed boundary for the Gile Project. Are you familiar with other Class I/II boating opportunities within or in the vicinity of the watershed boundary?

If yes, use the space below to provide information on those opportunities, such as location or name, river characteristics, estimated flows, public access availability or constraints, and any other information that may help characterize other Class I/II boating opportunities in this area.

Thank you for participating in the Level 1 Assessment for the Gile Project

Generally accepted whitewater difficulty class definitions:

Class I: easy but fast moving water, small waves, passages clear, no serious obstacles, perfect for all ages and abilities. Skill Level: very basic.

Class II: rough and fast moving water; rocks, small ledges, and other obstacles which might require some maneuvering. Skill level: basic paddling skill.

Class III: swift whitewater, small to medium waves, rocks, eddies, rapids with narrow but clear passages, requires significant maneuvering to navigate successfully but the consequences of error are generally minimal. Skill level: experienced guide recommended.

Class IV: challenging whitewater with powerful waves, long rapids, difficult to avoid rocks, boiling eddies; powerful and precise maneuvering required. Skill level: experienced guide required.

Class V: extreme whitewater with large waves, large volume, large rocks difficult to avoid and potentially deadly hazards, large drops often over 10 feet which require precise maneuvering. Skill level: experienced guide and experienced crew required.

Boater participant, please complete the following:

Name:	BRIAN CASTILLO
Affiliation:	
Zip Code:	54891
Email:	dynamicwaterse@gmail.com
Years of Experience:	20+

LEVEL 1 ASSESSMENT, *WEST FORK MONTREAL RIVER* (Map 1)

REACH: US HIGHWAY 2 to MONTREAL RIVER CONFLUENCE (Class I/II)

Please provide your knowledge regarding the following:

1. Have you previously boated the *West Fork Montreal River*? Yes ☑ No ☐

   a. If yes, how often do you use the West Fork Montreal River for whitewater recreation?
   whenever it runs we try to get it

   b. If yes, which reach of the West Fork Montreal River do you use for whitewater recreation?
   - Reach 1: Gile Dam to US Highway 2 (yes or no)
   - Reach 2: US Highway 2 to the confluence with the Montreal River (yes or no)

   c. If yes, where do you access the West Fork Montreal River for whitewater recreation?
   I believe off County D

   d. Is there suitable access downstream of US Highway 2 to the confluence with the Montreal River for Class I/II boating opportunities?
   - If yes, where?
   - If no, where would you recommend locating an acceptable access point?

   NOT CERTAIN

2. If you have used the West Fork Montreal River for whitewater recreation from US Highway 2 to the confluence with the Montreal River (as indicated in 1.b): (if no, skip to 3)
   a. What single flow or flow range (min to max) provides a suitable boating opportunity?

   b. What type of watercraft can be used at this single flow or flow range?

   c. What boater experience level is suitable for this single flow or flow range?

3. What characteristics, if any, of the West Fork Montreal River make it suitable for whitewater recreation for the following reaches:
   a. Reach 1: Gile Dam to US Highway 2

      Good access. Challenging rapids. Beautiful

   b. Reach 2: US Highway 2 to the confluence with the Montreal River

      Not certain

4. What characteristics, if any, of the West Fork Montreal River make it unsuitable for whitewater recreation for the following reaches:
   a. Reach 1: Gile Dam to US Highway 2

   b. Reach 2: US Highway 2 to the confluence with the Montreal River

5. Additional comments, if any, for the West Fork Montreal River:

LEVEL 1 ASSESSMENT, *MONTREAL RIVER* (Map 2)

REACH: MONTREAL RIVER CONFLUENCE TO SAXON FALLS PROJECT (Class I/II)

Please provide your knowledge regarding the following:

1. Have you previously boated this reach of the *Montreal River*? Yes ☐ No ☐
   a. If yes, how often do you use this reach for whitewater recreation?

   b. If yes, where do you access this reach for whitewater recreation?

   c. Is there suitable access to this reach for Class I/II boating opportunities?
      - If yes, where?

      - If no, where would you recommend locating an acceptable access point?

2. If you have used this reach for whitewater recreation:
   a. What single flow or flow range (min to max) provides a suitable boating opportunity?

   b. What type of watercraft can be used at this single flow or flow range?

   c. What boater experience level is suitable for this single flow or flow range?

3. What characteristics, if any, of this reach make it suitable for whitewater recreation?

4. What characteristics, if any, of this reach make it unsuitable for whitewater recreation?

LEVEL 1 ASSESSMENT, BOATING OPPORTUNITIES IN THE AREA (Map 3)

Map 3 shows the watershed boundary for the Gile Project. Are you familiar with other Class I/II boating opportunities within or in the vicinity of the watershed boundary?

If yes, use the space below to provide information on those opportunities, such as location or name, river characteristics, estimated flows, public access availability or constraints, and any other information that may help characterize other Class I/II boating opportunities in this area.

Thank you for participating in the Level 1 Assessment for the Gile Project

Generally accepted whitewater difficulty class definitions:

Class I: easy but fast moving water, small waves, passages clear, no serious obstacles, perfect for all ages and abilities. Skill Level: very basic.

Class II: rough and fast moving water; rocks, small ledges, and other obstacles which might require some maneuvering. Skill level: basic paddling skill.

Class III: swift whitewater, small to medium waves, rocks, eddies, rapids with narrow but clear passages, requires significant maneuvering to navigate successfully but the consequences of error are generally minimal. Skill level: experienced guide recommended.

Class IV: challenging whitewater with powerful waves, long rapids, difficult to avoid rocks, boiling eddies; powerful and precise maneuvering required. Skill level: experienced guide required.

Class V: extreme whitewater with large waves, large volume, large rocks difficult to avoid and potentially deadly hazards, large drops often over 10 feet which require precise maneuvering. Skill level: experienced guide and experienced crew required.

Boater participant, please complete the following:

Name:	Aaron Erdrich
Affiliation:	
Zip Code:	
Email:	
Years of Experience:	

LEVEL 1 ASSESSMENT, *WEST FORK MONTREAL RIVER* (Map 1)

REACH: US HIGHWAY 2 to MONTREAL RIVER CONFLUENCE (Class I/II)

Please provide your knowledge regarding the following:

1. Have you previously boated the *West Fork Montreal River*? Yes ☐ No ☒
   a. If yes, how often do you use the West Fork Montreal River for whitewater recreation?

   b. If yes, which reach of the West Fork Montreal River do you use for whitewater recreation?
      - Reach 1: Gile Dam to US Highway 2 (yes or no)
      - Reach 2: US Highway 2 to the confluence with the Montreal River (yes or no)

   c. If yes, where do you access the West Fork Montreal River for whitewater recreation?

   d. Is there suitable access downstream of US Highway 2 to the confluence with the Montreal River for Class I/II boating opportunities?
      - If yes, where?
      - If no, where would you recommend locating an acceptable access point?

2. If you have used the West Fork Montreal River for whitewater recreation from US Highway 2 to the confluence with the Montreal River (as indicated in 1.b): (if no, skip to 3)
   a. What single flow or flow range (min to max) provides a suitable boating opportunity?

   b. What type of watercraft can be used at this single flow or flow range?

   c. What boater experience level is suitable for this single flow or flow range?

3. What characteristics, if any, of the West Fork Montreal River make it suitable for whitewater recreation for the following reaches:
   a. Reach 1: Gile Dam to US Highway 2

   b. Reach 2: US Highway 2 to the confluence with the Montreal River

4. What characteristics, if any, of the West Fork Montreal River make it unsuitable for whitewater recreation for the following reaches:
   a. Reach 1: Gile Dam to US Highway 2

   b. Reach 2: US Highway 2 to the confluence with the Montreal River

5. Additional comments, if any, for the West Fork Montreal River:

LEVEL 1 ASSESSMENT, *MONTREAL RIVER* (Map 2)

REACH: MONTREAL RIVER CONFLUENCE TO SAXON FALLS PROJECT (Class I/II)

Please provide your knowledge regarding the following:

1. Have you previously boated this reach of the *Montreal River*? Yes ☐ No ☐
   a. If yes, how often do you use this reach for whitewater recreation?

   b. If yes, where do you access this reach for whitewater recreation?

   c. Is there suitable access to this reach for Class I/II boating opportunities?
      - If yes, where?

      - If no, where would you recommend locating an acceptable access point?

2. If you have used this reach for whitewater recreation:
   a. What single flow or flow range (min to max) provides a suitable boating opportunity?

   b. What type of watercraft can be used at this single flow or flow range?

   c. What boater experience level is suitable for this single flow or flow range?

3. What characteristics, if any, of this reach make it suitable for whitewater recreation?

4. What characteristics, if any, of this reach make it unsuitable for whitewater recreation?

LEVEL 1 ASSESSMENT, BOATING OPPORTUNITIES IN THE AREA (Map 3)

Map 3 shows the watershed boundary for the Gile Project. Are you familiar with other Class I/II boating opportunities within or in the vicinity of the watershed boundary?

If yes, use the space below to provide information on those opportunities, such as location or name, river characteristics, estimated flows, public access availability or constraints, and any other information that may help characterize other Class I/II boating opportunities in this area.

Thank you for participating in the Level 1 Assessment for the Gile Project

Generally accepted whitewater difficulty class definitions:

Class I: easy but fast moving water, small waves, passages clear, no serious obstacles, perfect for all ages and abilities. Skill Level: very basic.

Class II: rough and fast moving water; rocks, small ledges, and other obstacles which might require some maneuvering. Skill level: basic paddling skill.

Class III: swift whitewater, small to medium waves, rocks, eddies, rapids with narrow but clear passages, requires significant maneuvering to navigate successfully but the consequences of error are generally minimal. Skill level: experienced guide recommended.

Class IV: challenging whitewater with powerful waves, long rapids, difficult to avoid rocks, boiling eddies; powerful and precise maneuvering required. Skill level: experienced guide required.

Class V: extreme whitewater with large waves, large volume, large rocks difficult to avoid and potentially deadly hazards, large drops often over 10 feet which require precise maneuvering. Skill level: experienced guide and experienced crew required.

Boater participant, please complete the following:

Name:	Matthew Hansen
Affiliation:	
Zip Code:	49783
Email:	matthew.hansen.uga.edu
Years of Experience:	7

LEVEL 1 ASSESSMENT, *WEST FORK MONTREAL RIVER* (Map 1)

REACH: US HIGHWAY 2 to MONTREAL RIVER CONFLUENCE (Class I/II)

Please provide your knowledge regarding the following:

1. Have you previously boated the *West Fork Montreal River*? Yes ☐ No ☒

   a. If yes, how often do you use the West Fork Montreal River for whitewater recreation?

   b. If yes, which reach of the West Fork Montreal River do you use for whitewater recreation?
      - Reach 1: Gile Dam to US Highway 2 (yes or no)
      - Reach 2: US Highway 2 to the confluence with the Montreal River (yes or no)

   c. If yes, where do you access the West Fork Montreal River for whitewater recreation?

   d. Is there suitable access downstream of US Highway 2 to the confluence with the Montreal River for Class I/II boating opportunities?
      - If yes, where?
      - If no, where would you recommend locating an acceptable access point?

2. If you have used the West Fork Montreal River for whitewater recreation from US Highway 2 to the confluence with the Montreal River (as indicated in 1.b): (if no, skip to 3)
   a. What single flow or flow range (min to max) provides a suitable boating opportunity?

   b. What type of watercraft can be used at this single flow or flow range?

   c. What boater experience level is suitable for this single flow or flow range?

3. What characteristics, if any, of the West Fork Montreal River make it suitable for whitewater recreation for the following reaches:
   a. Reach 1: Gile Dam to US Highway 2

   b. Reach 2: US Highway 2 to the confluence with the Montreal River

4. What characteristics, if any, of the West Fork Montreal River make it unsuitable for whitewater recreation for the following reaches:
   a. Reach 1: Gile Dam to US Highway 2

   b. Reach 2: US Highway 2 to the confluence with the Montreal River

5. Additional comments, if any, for the West Fork Montreal River:

LEVEL 1 ASSESSMENT, *MONTREAL RIVER* (Map 2)

REACH: MONTREAL RIVER CONFLUENCE TO SAXON FALLS PROJECT (Class I/II)

Please provide your knowledge regarding the following:

1. Have you previously boated this reach of the *Montreal River*? Yes ☐ No ☒
   a. If yes, how often do you use this reach for whitewater recreation?

   b. If yes, where do you access this reach for whitewater recreation?

   c. Is there suitable access to this reach for Class I/II boating opportunities?
      - If yes, where?

      - If no, where would you recommend locating an acceptable access point?

2. If you have used this reach for whitewater recreation:
   a. What single flow or flow range (min to max) provides a suitable boating opportunity?

   b. What type of watercraft can be used at this single flow or flow range?

   c. What boater experience level is suitable for this single flow or flow range?

3. What characteristics, if any, of this reach make it suitable for whitewater recreation?

4. What characteristics, if any, of this reach make it unsuitable for whitewater recreation?

LEVEL 1 ASSESSMENT, BOATING OPPORTUNITIES IN THE AREA (Map 3)

Map 3 shows the watershed boundary for the Gile Project. Are you familiar with other Class I/II boating opportunities within or in the vicinity of the watershed boundary?

If yes, use the space below to provide information on those opportunities, such as location or name, river characteristics, estimated flows, public access availability or constraints, and any other information that may help characterize other Class I/II boating opportunities in this area.

Thank you for participating in the Level 1 Assessment for the Gile Project

Generally accepted whitewater difficulty class definitions:

Class I: easy but fast moving water, small waves, passages clear, no serious obstacles, perfect for all ages and abilities. Skill Level: very basic.

Class II: rough and fast moving water; rocks, small ledges, and other obstacles which might require some maneuvering. Skill level: basic paddling skill.

Class III: swift whitewater, small to medium waves, rocks, eddies, rapids with narrow but clear passages, requires significant maneuvering to navigate successfully but the consequences of error are generally minimal. Skill level: experienced guide recommended.

Class IV: challenging whitewater with powerful waves, long rapids, difficult to avoid rocks, boiling eddies; powerful and precise maneuvering required. Skill level: experienced guide required.

Class V: extreme whitewater with large waves, large volume, large rocks difficult to avoid and potentially deadly hazards, large drops often over 10 feet which require precise maneuvering. Skill level: experienced guide and experienced crew required.

Boater participant, please complete the following:

Name:	Elita Hecimovich
Affiliation:	Raft Guide
Zip Code:	49801
Email:	
Years of Experience:	9

LEVEL 1 ASSESSMENT, *WEST FORK MONTREAL RIVER* (Map 1)

REACH: US HIGHWAY 2 to MONTREAL RIVER CONFLUENCE (Class I/II)

Please provide your knowledge regarding the following:

1. Have you previously boated the *West Fork Montreal River*? Yes ☐ No ☒
   a. If yes, how often do you use the West Fork Montreal River for whitewater recreation?

   b. If yes, which reach of the West Fork Montreal River do you use for whitewater recreation?
      - Reach 1: Gile Dam to US Highway 2 (yes or no)
      - Reach 2: US Highway 2 to the confluence with the Montreal River (yes or no)

   c. If yes, where do you access the West Fork Montreal River for whitewater recreation?

   d. Is there suitable access downstream of US Highway 2 to the confluence with the Montreal River for Class I/II boating opportunities?
      - If yes, where?
      - If no, where would you recommend locating an acceptable access point?

2. If you have used the West Fork Montreal River for whitewater recreation from US Highway 2 to the confluence with the Montreal River (as indicated in 1.b): (if no, skip to 3)
   a. What single flow or flow range (min to max) provides a suitable boating opportunity?

   b. What type of watercraft can be used at this single flow or flow range?

   c. What boater experience level is suitable for this single flow or flow range?

3. What characteristics, if any, of the West Fork Montreal River make it suitable for whitewater recreation for the following reaches:
   a. Reach 1: Gile Dam to US Highway 2

   b. Reach 2: US Highway 2 to the confluence with the Montreal River

4. What characteristics, if any, of the West Fork Montreal River make it unsuitable for whitewater recreation for the following reaches:
   a. Reach 1: Gile Dam to US Highway 2

   b. Reach 2: US Highway 2 to the confluence with the Montreal River

5. Additional comments, if any, for the West Fork Montreal River:

LEVEL 1 ASSESSMENT, *MONTREAL RIVER* (Map 2)

REACH: MONTREAL RIVER CONFLUENCE TO SAXON FALLS PROJECT (Class I/II)

Please provide your knowledge regarding the following:

1. Have you previously boated this reach of the *Montreal River*? Yes ☐ No ☐
   a. If yes, how often do you use this reach for whitewater recreation?

   b. If yes, where do you access this reach for whitewater recreation?

   c. Is there suitable access to this reach for Class I/II boating opportunities?
      - If yes, where?

      - If no, where would you recommend locating an acceptable access point?

2. If you have used this reach for whitewater recreation:
   a. What single flow or flow range (min to max) provides a suitable boating opportunity?

   b. What type of watercraft can be used at this single flow or flow range?

   c. What boater experience level is suitable for this single flow or flow range?

3. What characteristics, if any, of this reach make it suitable for whitewater recreation?

4. What characteristics, if any, of this reach make it unsuitable for whitewater recreation?

LEVEL 1 ASSESSMENT, BOATING OPPORTUNITIES IN THE AREA (Map 3)

Map 3 shows the watershed boundary for the Gile Project. Are you familiar with other Class I/II boating opportunities within or in the vicinity of the watershed boundary?

If yes, use the space below to provide information on those opportunities, such as location or name, river characteristics, estimated flows, public access availability or constraints, and any other information that may help characterize other Class I/II boating opportunities in this area.

Thank you for participating in the Level 1 Assessment for the Gile Project

Generally accepted whitewater difficulty class definitions:

Class I: easy but fast moving water, small waves, passages clear, no serious obstacles, perfect for all ages and abilities. Skill Level: very basic.

Class II: rough and fast moving water; rocks, small ledges, and other obstacles which might require some maneuvering. Skill level: basic paddling skill.

Class III: swift whitewater, small to medium waves, rocks, eddies, rapids with narrow but clear passages, requires significant maneuvering to navigate successfully but the consequences of error are generally minimal. Skill level: experienced guide recommended.

Class IV: challenging whitewater with powerful waves, long rapids, difficult to avoid rocks, boiling eddies; powerful and precise maneuvering required. Skill level: experienced guide required.

Class V: extreme whitewater with large waves, large volume, large rocks difficult to avoid and potentially deadly hazards, large drops often over 10 feet which require precise maneuvering. Skill level: experienced guide and experienced crew required.

Boater participant, please complete the following:

Name:	Austin Irzo
Affiliation:	
Zip Code:	49801
Email:	Austin_1220@yahoo.com
Years of Experience:	7

LEVEL 1 ASSESSMENT, *WEST FORK MONTREAL RIVER* (Map 1)

REACH: US HIGHWAY 2 to MONTREAL RIVER CONFLUENCE (Class I/II)

Please provide your knowledge regarding the following:

1. Have you previously boated the *West Fork Montreal River*? Yes ☐ No ☑

   a. If yes, how often do you use the West Fork Montreal River for whitewater recreation?

   b. If yes, which reach of the West Fork Montreal River do you use for whitewater recreation?
      - Reach 1: Gile Dam to US Highway 2 (yes or no)
      - Reach 2: US Highway 2 to the confluence with the Montreal River (yes or no)

   c. If yes, where do you access the West Fork Montreal River for whitewater recreation?

   d. Is there suitable access downstream of US Highway 2 to the confluence with the Montreal River for Class I/II boating opportunities?
      - If yes, where?
      - If no, where would you recommend locating an acceptable access point?

2. If you have used the West Fork Montreal River for whitewater recreation from US Highway 2 to the confluence with the Montreal River (as indicated in 1.b): (if no, skip to 3)
   a. What single flow or flow range (min to max) provides a suitable boating opportunity?

   b. What type of watercraft can be used at this single flow or flow range?

   c. What boater experience level is suitable for this single flow or flow range?

3. What characteristics, if any, of the West Fork Montreal River make it suitable for whitewater recreation for the following reaches:
   a. Reach 1: Gile Dam to US Highway 2

   b. Reach 2: US Highway 2 to the confluence with the Montreal River

4. What characteristics, if any, of the West Fork Montreal River make it unsuitable for whitewater recreation for the following reaches:
   a. Reach 1: Gile Dam to US Highway 2

   b. Reach 2: US Highway 2 to the confluence with the Montreal River

5. Additional comments, if any, for the West Fork Montreal River:

LEVEL 1 ASSESSMENT, *MONTREAL RIVER* (Map 2)

REACH: MONTREAL RIVER CONFLUENCE TO SAXON FALLS PROJECT (Class I/II)

Please provide your knowledge regarding the following:

1. Have you previously boated this reach of the *Montreal River*? Yes ☐ No ☑
   a. If yes, how often do you use this reach for whitewater recreation?

   b. If yes, where do you access this reach for whitewater recreation?

   c. Is there suitable access to this reach for Class I/II boating opportunities?
      - If yes, where?

      - If no, where would you recommend locating an acceptable access point?

2. If you have used this reach for whitewater recreation:
   a. What single flow or flow range (min to max) provides a suitable boating opportunity?

   b. What type of watercraft can be used at this single flow or flow range?

   c. What boater experience level is suitable for this single flow or flow range?

3. What characteristics, if any, of this reach make it suitable for whitewater recreation?

4. What characteristics, if any, of this reach make it unsuitable for whitewater recreation?

LEVEL 1 ASSESSMENT, BOATING OPPORTUNITIES IN THE AREA (Map 3)

Map 3 shows the watershed boundary for the Gile Project. Are you familiar with other Class I/II boating opportunities within or in the vicinity of the watershed boundary?

If yes, use the space below to provide information on those opportunities, such as location or name, river characteristics, estimated flows, public access availability or constraints, and any other information that may help characterize other Class I/II boating opportunities in this area.

Thank you for participating in the Level 1 Assessment for the Gile Project

Generally accepted whitewater difficulty class definitions:

Class I: easy but fast moving water, small waves, passages clear, no serious obstacles, perfect for all ages and abilities. Skill Level: very basic.

Class II: rough and fast moving water; rocks, small ledges, and other obstacles which might require some maneuvering. Skill level: basic paddling skill.

Class III: swift whitewater, small to medium waves, rocks, eddies, rapids with narrow but clear passages, requires significant maneuvering to navigate successfully but the consequences of error are generally minimal. Skill level: experienced guide recommended.

Class IV: challenging whitewater with powerful waves, long rapids, difficult to avoid rocks, boiling eddies; powerful and precise maneuvering required. Skill level: experienced guide required.

Class V: extreme whitewater with large waves, large volume, large rocks difficult to avoid and potentially deadly hazards, large drops often over 10 feet which require precise maneuvering. Skill level: experienced guide and experienced crew required.

Boater participant, please complete the following:

Name:	Tim
Affiliation:	
Zip Code:	
Email:	
Years of Experience:	

LEVEL 1 ASSESSMENT, *WEST FORK MONTREAL RIVER* (Map 1)

REACH: US HIGHWAY 2 to MONTREAL RIVER CONFLUENCE (Class I/II)

Please provide your knowledge regarding the following:

1. Have you previously boated the *West Fork Montreal River*? Yes ☑ No ☐

   a. If yes, how often do you use the West Fork Montreal River for whitewater recreation?

   - only once

   b. If yes, which reach of the West Fork Montreal River do you use for whitewater recreation?

   - Reach 1: Gile Dam to US Highway 2 (yes or no)
   - Reach 2: US Highway 2 to the confluence with the Montreal River (yes or no)

   c. If yes, where do you access the West Fork Montreal River for whitewater recreation?

   Road above Rock Cut Falls

   d. Is there suitable access downstream of US Highway 2 to the confluence with the Montreal River for Class I/II boating opportunities? N/A

   - If yes, where?
   - If no, where would you recommend locating an acceptable access point?

2. If you have used the West Fork Montreal River for whitewater recreation from US Highway 2 to the confluence with the Montreal River (as indicated in 1.b): (if no, skip to 3)
   a. What single flow or flow range (min to max) provides a suitable boating opportunity?

   b. What type of watercraft can be used at this single flow or flow range?

   c. What boater experience level is suitable for this single flow or flow range?

3. What characteristics, if any, of the West Fork Montreal River make it suitable for whitewater recreation for the following reaches:
   a. Reach 1: Gile Dam to US Highway 2
      very rocky with high rock walls through Rock Cut. Good gradient and variety of rapids
   b. Reach 2: US Highway 2 to the confluence with the Montreal River

4. What characteristics, if any, of the West Fork Montreal River make it unsuitable for whitewater recreation for the following reaches:
   a. Reach 1: Gile Dam to US Highway 2

   b. Reach 2: US Highway 2 to the confluence with the Montreal River

5. Additional comments, if any, for the West Fork Montreal River:

LEVEL 1 ASSESSMENT, *MONTREAL RIVER* (Map 2)

REACH: MONTREAL RIVER CONFLUENCE TO SAXON FALLS PROJECT (Class I/II)

Please provide your knowledge regarding the following:

1. Have you previously boated this reach of the *Montreal River*? Yes ☐ No ☐
   a. If yes, how often do you use this reach for whitewater recreation?

   b. If yes, where do you access this reach for whitewater recreation?

   c. Is there suitable access to this reach for Class I/II boating opportunities?
      - If yes, where?

      - If no, where would you recommend locating an acceptable access point?

2. If you have used this reach for whitewater recreation:
   a. What single flow or flow range (min to max) provides a suitable boating opportunity?

   b. What type of watercraft can be used at this single flow or flow range?

   c. What boater experience level is suitable for this single flow or flow range?

3. What characteristics, if any, of this reach make it suitable for whitewater recreation?

4. What characteristics, if any, of this reach make it unsuitable for whitewater recreation?

LEVEL 1 ASSESSMENT, BOATING OPPORTUNITIES IN THE AREA (Map 3)

Map 3 shows the watershed boundary for the Gile Project. Are you familiar with other Class I/II boating opportunities within or in the vicinity of the watershed boundary?

If yes, use the space below to provide information on those opportunities, such as location or name, river characteristics, estimated flows, public access availability or constraints, and any other information that may help characterize other Class I/II boating opportunities in this area.

Thank you for participating in the Level 1 Assessment for the Gile Project

Generally accepted whitewater difficulty class definitions:

Class I: easy but fast moving water, small waves, passages clear, no serious obstacles, perfect for all ages and abilities. Skill Level: very basic.

Class II: rough and fast moving water; rocks, small ledges, and other obstacles which might require some maneuvering. Skill level: basic paddling skill.

Class III: swift whitewater, small to medium waves, rocks, eddies, rapids with narrow but clear passages, requires significant maneuvering to navigate successfully but the consequences of error are generally minimal. Skill level: experienced guide recommended.

Class IV: challenging whitewater with powerful waves, long rapids, difficult to avoid rocks, boiling eddies; powerful and precise maneuvering required. Skill level: experienced guide required.

Class V: extreme whitewater with large waves, large volume, large rocks difficult to avoid and potentially deadly hazards, large drops often over 10 feet which require precise maneuvering. Skill level: experienced guide and experienced crew required.

Boater participant, please complete the following:

Name:	Brian Krueger
Affiliation:	
Zip Code:	53221
Email:	OSV@WI.rr.com
Years of Experience:	

LEVEL 1 ASSESSMENT, *WEST FORK MONTREAL RIVER* (Map 1)

REACH: US HIGHWAY 2 to MONTREAL RIVER CONFLUENCE (Class I/II)

Please provide your knowledge regarding the following:

1. Have you previously boated the *West Fork Montreal River*? Yes ☑ No ☐

   a. If yes, how often do you use the West Fork Montreal River for whitewater recreation?

   Not often, Hard to catch with water

   b. If yes, which reach of the West Fork Montreal River do you use for whitewater recreation?

   - Reach 1: Gile Dam to US Highway 2 (yes or no)
   - Reach 2: US Highway 2 to the confluence with the Montreal River (yes or no)

   gile park

   c. If yes, where do you access the West Fork Montreal River for whitewater recreation?

   yes

   d. Is there suitable access downstream of US Highway 2 to the confluence with the Montreal River for Class I/II boating opportunities?

   - If yes, where?
   - If no, where would you recommend locating an acceptable access point?

2. If you have used the West Fork Montreal River for whitewater recreation from US Highway 2 to the confluence with the Montreal River (as indicated in 1.b): (if no, skip to 3)
   a. What single flow or flow range (min to max) provides a suitable boating opportunity?

   b. What type of watercraft can be used at this single flow or flow range?

   c. What boater experience level is suitable for this single flow or flow range?

3. What characteristics, if any, of the West Fork Montreal River make it suitable for whitewater recreation for the following reaches:
   a. Reach 1: Gile Dam to US Highway 2

   b. Reach 2: US Highway 2 to the confluence with the Montreal River

4. What characteristics, if any, of the West Fork Montreal River make it unsuitable for whitewater recreation for the following reaches:
   a. Reach 1: Gile Dam to US Highway 2

   b. Reach 2: US Highway 2 to the confluence with the Montreal River

5. Additional comments, if any, for the West Fork Montreal River:

LEVEL 1 ASSESSMENT, *MONTREAL RIVER* (Map 2)

REACH: MONTREAL RIVER CONFLUENCE TO SAXON FALLS PROJECT (Class I/II)

Please provide your knowledge regarding the following:

1. Have you previously boated this reach of the *Montreal River*? Yes ☐ No ☒
   a. If yes, how often do you use this reach for whitewater recreation?

   b. If yes, where do you access this reach for whitewater recreation?

   c. Is there suitable access to this reach for Class I/II boating opportunities?
      - If yes, where?

      - If no, where would you recommend locating an acceptable access point?

2. If you have used this reach for whitewater recreation:
   a. What single flow or flow range (min to max) provides a suitable boating opportunity?

   b. What type of watercraft can be used at this single flow or flow range?

   c. What boater experience level is suitable for this single flow or flow range?

3. What characteristics, if any, of this reach make it suitable for whitewater recreation?

4. What characteristics, if any, of this reach make it unsuitable for whitewater recreation?

LEVEL 1 ASSESSMENT, BOATING OPPORTUNITIES IN THE AREA (Map 3)

Map 3 shows the watershed boundary for the Gile Project. Are you familiar with other Class I/II boating opportunities within or in the vicinity of the watershed boundary?

If yes, use the space below to provide information on those opportunities, such as location or name, river characteristics, estimated flows, public access availability or constraints, and any other information that may help characterize other Class I/II boating opportunities in this area.

Thank you for participating in the Level 1 Assessment for the Gile Project

Generally accepted whitewater difficulty class definitions:

Class I: easy but fast moving water, small waves, passages clear, no serious obstacles, perfect for all ages and abilities. Skill Level: very basic.

Class II: rough and fast moving water; rocks, small ledges, and other obstacles which might require some maneuvering. Skill level: basic paddling skill.

Class III: swift whitewater, small to medium waves, rocks, eddies, rapids with narrow but clear passages, requires significant maneuvering to navigate successfully but the consequences of error are generally minimal. Skill level: experienced guide recommended.

Class IV: challenging whitewater with powerful waves, long rapids, difficult to avoid rocks, boiling eddies; powerful and precise maneuvering required. Skill level: experienced guide required.

Class V: extreme whitewater with large waves, large volume, large rocks difficult to avoid and potentially deadly hazards, large drops often over 10 feet which require precise maneuvering. Skill level: experienced guide and experienced crew required.

Boater participant, please complete the following:

Name:	Tony Locken
Affiliation:	None
Zip Code:	55318
Email:	alocken10@yahoo.com
Years of Experience:	12

LEVEL 1 ASSESSMENT, *WEST FORK MONTREAL RIVER* (Map 1)

REACH: US HIGHWAY 2 to MONTREAL RIVER CONFLUENCE (Class I/II)

Please provide your knowledge regarding the following:

1. Have you previously boated the *West Fork Montreal River*? Yes ☑ No ☐

   a. If yes, how often do you use the West Fork Montreal River for whitewater recreation?

   When it runs, which is typically in early spring

   b. If yes, which reach of the West Fork Montreal River do you use for whitewater recreation?

   - Reach 1: Gile Dam to US Highway 2 (yes or no) yes
   - Reach 2: US Highway 2 to the confluence with the Montreal River (yes or no)

   no

   c. If yes, where do you access the West Fork Montreal River for whitewater recreation?

   GILE DAM

   d. Is there suitable access downstream of US Highway 2 to the confluence with the Montreal River for Class I/II boating opportunities?

   - If yes, where?

   Not that I know of

   - If no, where would you recommend locating an acceptable access point?

   Not sure

2. If you have used the West Fork Montreal River for whitewater recreation from US Highway 2 to the confluence with the Montreal River (as indicated in 1.b): (if no, skip to 3)
   a. What single flow or flow range (min to max) provides a suitable boating opportunity?

   b. What type of watercraft can be used at this single flow or flow range?

   c. What boater experience level is suitable for this single flow or flow range?

3. What characteristics, if any, of the West Fork Montreal River make it suitable for whitewater recreation for the following reaches:
   a. Reach 1: Gile Dam to US Highway 2

      Scenic, pretty continuous, fun but not scary

   b. Reach 2: US Highway 2 to the confluence with the Montreal River

      Unknown

4. What characteristics, if any, of the West Fork Montreal River make it unsuitable for whitewater recreation for the following reaches:
   a. Reach 1: Gile Dam to US Highway 2

      None that I can think of

   b. Reach 2: US Highway 2 to the confluence with the Montreal River

5. Additional comments, if any, for the West Fork Montreal River:

   Sick stretch of river

LEVEL 1 ASSESSMENT, *MONTREAL RIVER* (Map 2)

REACH: MONTREAL RIVER CONFLUENCE TO SAXON FALLS PROJECT (Class I/II)

Please provide your knowledge regarding the following:

1. Have you previously boated this reach of the *Montreal River*? Yes ☐ No ☐
   a. If yes, how often do you use this reach for whitewater recreation?

   b. If yes, where do you access this reach for whitewater recreation?

   c. Is there suitable access to this reach for Class I/II boating opportunities?
      - If yes, where?

      - If no, where would you recommend locating an acceptable access point?

2. If you have used this reach for whitewater recreation:
   a. What single flow or flow range (min to max) provides a suitable boating opportunity?

   b. What type of watercraft can be used at this single flow or flow range?

   c. What boater experience level is suitable for this single flow or flow range?

3. What characteristics, if any, of this reach make it suitable for whitewater recreation?

4. What characteristics, if any, of this reach make it unsuitable for whitewater recreation?

LEVEL 1 ASSESSMENT, BOATING OPPORTUNITIES IN THE AREA (Map 3)

Map 3 shows the watershed boundary for the Gile Project. Are you familiar with other Class I/II boating opportunities within or in the vicinity of the watershed boundary?

If yes, use the space below to provide information on those opportunities, such as location or name, river characteristics, estimated flows, public access availability or constraints, and any other information that may help characterize other Class I/II boating opportunities in this area.

Thank you for participating in the Level 1 Assessment for the Gile Project

Generally accepted whitewater difficulty class definitions:

Class I: easy but fast moving water, small waves, passages clear, no serious obstacles, perfect for all ages and abilities. Skill Level: very basic.

Class II: rough and fast moving water; rocks, small ledges, and other obstacles which might require some maneuvering. Skill level: basic paddling skill.

Class III: swift whitewater, small to medium waves, rocks, eddies, rapids with narrow but clear passages, requires significant maneuvering to navigate successfully but the consequences of error are generally minimal. Skill level: experienced guide recommended.

Class IV: challenging whitewater with powerful waves, long rapids, difficult to avoid rocks, boiling eddies; powerful and precise maneuvering required. Skill level: experienced guide required.

Class V: extreme whitewater with large waves, large volume, large rocks difficult to avoid and potentially deadly hazards, large drops often over 10 feet which require precise maneuvering. Skill level: experienced guide and experienced crew required.

Boater participant, please complete the following:

Name:	Hunter Rackliffe
Affiliation:	Rapid Riders
Zip Code:	55808
Email:	h.rackliffe218@gmail.com
Years of Experience:	6

LEVEL 1 ASSESSMENT, *WEST FORK MONTREAL RIVER* (Map 1)

REACH: US HIGHWAY 2 to MONTREAL RIVER CONFLUENCE (Class I/II)

Please provide your knowledge regarding the following:

1. Have you previously boated the *West Fork Montreal River*? Yes ☐ No ☒

   a. If yes, how often do you use the West Fork Montreal River for whitewater recreation?

   b. If yes, which reach of the West Fork Montreal River do you use for whitewater recreation?
      - Reach 1: Gile Dam to US Highway 2 (yes or no)
      - Reach 2: US Highway 2 to the confluence with the Montreal River (yes or no)

   c. If yes, where do you access the West Fork Montreal River for whitewater recreation?

   d. Is there suitable access downstream of US Highway 2 to the confluence with the Montreal River for Class I/II boating opportunities?
      - If yes, where?
      - If no, where would you recommend locating an acceptable access point?

2. If you have used the West Fork Montreal River for whitewater recreation from US Highway 2 to the confluence with the Montreal River (as indicated in 1.b): (if no, skip to 3)
   a. What single flow or flow range (min to max) provides a suitable boating opportunity?

   b. What type of watercraft can be used at this single flow or flow range?

   c. What boater experience level is suitable for this single flow or flow range?

3. What characteristics, if any, of the West Fork Montreal River make it suitable for whitewater recreation for the following reaches:
   a. Reach 1: Gile Dam to US Highway 2

      Continuous whitewater

   b. Reach 2: US Highway 2 to the confluence with the Montreal River

      sections for everyone

4. What characteristics, if any, of the West Fork Montreal River make it unsuitable for whitewater recreation for the following reaches:
   a. Reach 1: Gile Dam to US Highway 2

   b. Reach 2: US Highway 2 to the confluence with the Montreal River

5. Additional comments, if any, for the West Fork Montreal River:

LEVEL 1 ASSESSMENT, *MONTREAL RIVER* (Map 2)

REACH: MONTREAL RIVER CONFLUENCE TO SAXON FALLS PROJECT (Class I/II)

Please provide your knowledge regarding the following:

1. Have you previously boated this reach of the *Montreal River*? Yes ☐ No ☐
   a. If yes, how often do you use this reach for whitewater recreation?

   b. If yes, where do you access this reach for whitewater recreation?

   c. Is there suitable access to this reach for Class I/II boating opportunities?
      - If yes, where?

      - If no, where would you recommend locating an acceptable access point?

2. If you have used this reach for whitewater recreation:
   a. What single flow or flow range (min to max) provides a suitable boating opportunity?

   b. What type of watercraft can be used at this single flow or flow range?

   c. What boater experience level is suitable for this single flow or flow range?

3. What characteristics, if any, of this reach make it suitable for whitewater recreation?

4. What characteristics, if any, of this reach make it unsuitable for whitewater recreation?

LEVEL 1 ASSESSMENT, BOATING OPPORTUNITIES IN THE AREA (Map 3)

Map 3 shows the watershed boundary for the Gile Project. Are you familiar with other Class I/II boating opportunities within or in the vicinity of the watershed boundary?

If yes, use the space below to provide information on those opportunities, such as location or name, river characteristics, estimated flows, public access availability or constraints, and any other information that may help characterize other Class I/II boating opportunities in this area.

Thank you for participating in the Level 1 Assessment for the Gile Project

Generally accepted whitewater difficulty class definitions:

Class I: easy but fast moving water, small waves, passages clear, no serious obstacles, perfect for all ages and abilities. Skill Level: very basic.

Class II: rough and fast moving water; rocks, small ledges, and other obstacles which might require some maneuvering. Skill level: basic paddling skill.

Class III: swift whitewater, small to medium waves, rocks, eddies, rapids with narrow but clear passages, requires significant maneuvering to navigate successfully but the consequences of error are generally minimal. Skill level: experienced guide recommended.

Class IV: challenging whitewater with powerful waves, long rapids, difficult to avoid rocks, boiling eddies; powerful and precise maneuvering required. Skill level: experienced guide required.

Class V: extreme whitewater with large waves, large volume, large rocks difficult to avoid and potentially deadly hazards, large drops often over 10 feet which require precise maneuvering. Skill level: experienced guide and experienced crew required.

Boater participant, please complete the following:

Name:	John Ray
Affiliation:	Raft Guide
Zip Code:	49802
Email:	JohnRay6656@yahoo.com
Years of Experience:	6

LEVEL 1 ASSESSMENT, *WEST FORK MONTREAL RIVER* (Map 1)

REACH: US HIGHWAY 2 to MONTREAL RIVER CONFLUENCE (Class I/II)

Please provide your knowledge regarding the following:

1. Have you previously boated the *West Fork Montreal River*? Yes ☐ No ☑

   a. If yes, how often do you use the West Fork Montreal River for whitewater recreation?

   b. If yes, which reach of the West Fork Montreal River do you use for whitewater recreation?
      - Reach 1: Gile Dam to US Highway 2 (yes or no)
      - Reach 2: US Highway 2 to the confluence with the Montreal River (yes or no)

   c. If yes, where do you access the West Fork Montreal River for whitewater recreation?

   d. Is there suitable access downstream of US Highway 2 to the confluence with the Montreal River for Class I/II boating opportunities?
      - If yes, where?
      - If no, where would you recommend locating an acceptable access point?

2. If you have used the West Fork Montreal River for whitewater recreation from US Highway 2 to the confluence with the Montreal River (as indicated in 1.b): (if no, skip to 3)
   a. What single flow or flow range (min to max) provides a suitable boating opportunity?

   b. What type of watercraft can be used at this single flow or flow range?

   c. What boater experience level is suitable for this single flow or flow range?

3. What characteristics, if any, of the West Fork Montreal River make it suitable for whitewater recreation for the following reaches:
   a. Reach 1: Gile Dam to US Highway 2

   b. Reach 2: US Highway 2 to the confluence with the Montreal River

4. What characteristics, if any, of the West Fork Montreal River make it unsuitable for whitewater recreation for the following reaches:
   a. Reach 1: Gile Dam to US Highway 2

   b. Reach 2: US Highway 2 to the confluence with the Montreal River

5. Additional comments, if any, for the West Fork Montreal River:

LEVEL 1 ASSESSMENT, *MONTREAL RIVER* (Map 2)

REACH: MONTREAL RIVER CONFLUENCE TO SAXON FALLS PROJECT (Class I/II)

Please provide your knowledge regarding the following:

1. Have you previously boated this reach of the *Montreal River*? Yes ☐ No ☑
   a. If yes, how often do you use this reach for whitewater recreation?

   b. If yes, where do you access this reach for whitewater recreation?

   c. Is there suitable access to this reach for Class I/II boating opportunities?
      - If yes, where?

      - If no, where would you recommend locating an acceptable access point?

2. If you have used this reach for whitewater recreation:
   a. What single flow or flow range (min to max) provides a suitable boating opportunity?

   b. What type of watercraft can be used at this single flow or flow range?

   c. What boater experience level is suitable for this single flow or flow range?

3. What characteristics, if any, of this reach make it suitable for whitewater recreation?

4. What characteristics, if any, of this reach make it unsuitable for whitewater recreation?

LEVEL 1 ASSESSMENT, BOATING OPPORTUNITIES IN THE AREA (Map 3)

Map 3 shows the watershed boundary for the Gile Project. Are you familiar with other Class I/II boating opportunities within or in the vicinity of the watershed boundary?

If yes, use the space below to provide information on those opportunities, such as location or name, river characteristics, estimated flows, public access availability or constraints, and any other information that may help characterize other Class I/II boating opportunities in this area.

I love the Montreal Canyon below Sutton

Thank you for participating in the Level 1 Assessment for the Gile Project

Generally accepted whitewater difficulty class definitions:

Class I: easy but fast moving water, small waves, passages clear, no serious obstacles, perfect for all ages and abilities. Skill Level: very basic.

Class II: rough and fast moving water; rocks, small ledges, and other obstacles which might require some maneuvering. Skill level: basic paddling skill.

Class III: swift whitewater, small to medium waves, rocks, eddies, rapids with narrow but clear passages, requires significant maneuvering to navigate successfully but the consequences of error are generally minimal. Skill level: experienced guide recommended.

Class IV: challenging whitewater with powerful waves, long rapids, difficult to avoid rocks, boiling eddies; powerful and precise maneuvering required. Skill level: experienced guide required.

Class V: extreme whitewater with large waves, large volume, large rocks difficult to avoid and potentially deadly hazards, large drops often over 10 feet which require precise maneuvering. Skill level: experienced guide and experienced crew required.

Boater participant, please complete the following:

Name:	Jake Ring
Affiliation:	Boater liason
Zip Code:	49938
Email:	ringjaked@gmail.com
Years of Experience:	10 ?

LEVEL 1 ASSESSMENT, *WEST FORK MONTREAL RIVER* (Map 1)

REACH: US HIGHWAY 2 to MONTREAL RIVER CONFLUENCE (Class I/II)

Please provide your knowledge regarding the following:

1. Have you previously boated the *West Fork Montreal River*? Yes ☐ No ☒

   a. If yes, how often do you use the West Fork Montreal River for whitewater recreation?

   b. If yes, which reach of the West Fork Montreal River do you use for whitewater recreation?
      - Reach 1: Gile Dam to US Highway 2 (yes or no)
      - Reach 2: US Highway 2 to the confluence with the Montreal River (yes or no)

   c. If yes, where do you access the West Fork Montreal River for whitewater recreation?

   d. Is there suitable access downstream of US Highway 2 to the confluence with the Montreal River for Class I/II boating opportunities?
      - If yes, where?

        No
      - If no, where would you recommend locating an acceptable access point?

        I dont know, lets chat

2. If you have used the West Fork Montreal River for whitewater recreation from US Highway 2 to the confluence with the Montreal River (as indicated in 1.b): (if no, skip to 3)
   a. What single flow or flow range (min to max) provides a suitable boating opportunity?

   b. What type of watercraft can be used at this single flow or flow range?

   c. What boater experience level is suitable for this single flow or flow range?

3. What characteristics, if any, of the West Fork Montreal River make it suitable for whitewater recreation for the following reaches:
   a. Reach 1: Gile Dam to US Highway 2

      Gile Falls

   b. Reach 2: US Highway 2 to the confluence with the Montreal River

      no ww

4. What characteristics, if any, of the West Fork Montreal River make it unsuitable for whitewater recreation for the following reaches:
   a. Reach 1: Gile Dam to US Highway 2

      log jams can happen

   b. Reach 2: US Highway 2 to the confluence with the Montreal River

      down trees

5. Additional comments, if any, for the West Fork Montreal River:

LEVEL 1 ASSESSMENT, *MONTREAL RIVER* (Map 2)

REACH: MONTREAL RIVER CONFLUENCE TO SAXON FALLS PROJECT (Class I/II)

Please provide your knowledge regarding the following:

1. Have you previously boated this reach of the *Montreal River*? Yes ☒ No ☐
   a. If yes, how often do you use this reach for whitewater recreation?

      none

   b. If yes, where do you access this reach for whitewater recreation?

      nylund rd.

   c. Is there suitable access to this reach for Class I/II boating opportunities?
      - If yes, where?

        not really, 4 log jams between Nylund Rd + confluence, which is ~4.5 river mi. 2019
      - If no, where would you recommend locating an acceptable access point?

        Nearby railroad ? (lol)

2. If you have used this reach for whitewater recreation:
   a. What single flow or flow range (min to max) provides a suitable boating opportunity?

      No ww

   b. What type of watercraft can be used at this single flow or flow range?

      canoe / kayak

   c. What boater experience level is suitable for this single flow or flow range?

      novice except for the log jams.

3. What characteristics, if any, of this reach make it suitable for whitewater recreation?

   no ww

4. What characteristics, if any, of this reach make it unsuitable for whitewater recreation?

   no ww

LEVEL 1 ASSESSMENT, BOATING OPPORTUNITIES IN THE AREA (Map 3)

Map 3 shows the watershed boundary for the Gile Project. Are you familiar with other Class I/II boating opportunities within or in the vicinity of the watershed boundary?

If yes, use the space below to provide information on those opportunities, such as location or name, river characteristics, estimated flows, public access availability or constraints, and any other information that may help characterize other Class I/II boating opportunities in this area.

- Montreal water trail Norrie Park to cemetary. 4 miles, some logs, Class 1. any flow
- Montreal Canyon. Poor Access. 600 - 2000 +
- Black River from Blackjack to Hedberg. 5 miles, class 1. 150 cfs - 300 + ?
- Some of the Presque Isle is flat. Different options.
- All of our rivers + sections in Northern WI + U.P. are rain dependant.

Thank you for participating in the Level 1 Assessment for the Gile Project

Generally accepted whitewater difficulty class definitions:

Class I: easy but fast moving water, small waves, passages clear, no serious obstacles, perfect for all ages and abilities. Skill Level: very basic.

Class II: rough and fast moving water; rocks, small ledges, and other obstacles which might require some maneuvering. Skill level: basic paddling skill.

Class III: swift whitewater, small to medium waves, rocks, eddies, rapids with narrow but clear passages, requires significant maneuvering to navigate successfully but the consequences of error are generally minimal. Skill level: experienced guide recommended.

Class IV: challenging whitewater with powerful waves, long rapids, difficult to avoid rocks, boiling eddies; powerful and precise maneuvering required. Skill level: experienced guide required.

Class V: extreme whitewater with large waves, large volume, large rocks difficult to avoid and potentially deadly hazards, large drops often over 10 feet which require precise maneuvering. Skill level: experienced guide and experienced crew required.

Boater participant, please complete the following:

Name:	Brian Robin
Affiliation:	Rapid Riders
Zip Code:	55372
Email:	snwbdr94@yahoo.com
Years of Experience:	8

LEVEL 1 ASSESSMENT, *WEST FORK MONTREAL RIVER* (Map 1)

REACH: US HIGHWAY 2 to MONTREAL RIVER CONFLUENCE (Class I/II)

Please provide your knowledge regarding the following:

1. Have you previously boated the *West Fork Montreal River*? Yes ☒ No ☐

   a. If yes, how often do you use the West Fork Montreal River for whitewater recreation?

   Once when I was in the area and there was water

   b. If yes, which reach of the West Fork Montreal River do you use for whitewater recreation?

   - Reach 1: Gile Dam to US Highway 2 (yes or no)

   Yes

   - Reach 2: US Highway 2 to the confluence with the Montreal River (yes or no)

   NO

   c. If yes, where do you access the West Fork Montreal River for whitewater recreation?

   Below Gile Dam Above Gile Flows

   d. Is there suitable access downstream of US Highway 2 to the confluence with the Montreal River for Class I/II boating opportunities?

   - If yes, where?

   Unsure

   - If no, where would you recommend locating an acceptable access point?

   Unsure

2. If you have used the West Fork Montreal River for whitewater recreation from US Highway 2 to the confluence with the Montreal River (as indicated in 1.b): (if no, skip to 3)
   a. What single flow or flow range (min to max) provides a suitable boating opportunity?

      N/A

   b. What type of watercraft can be used at this single flow or flow range?

      N/A

   c. What boater experience level is suitable for this single flow or flow range?

      N/A

3. What characteristics, if any, of the West Fork Montreal River make it suitable for whitewater recreation for the following reaches:
   a. Reach 1: Gile Dam to US Highway 2

      Gile Falls, cool features, rapid under railroad bridge was awesome

   b. Reach 2: US Highway 2 to the confluence with the Montreal River

      N/A

4. What characteristics, if any, of the West Fork Montreal River make it unsuitable for whitewater recreation for the following reaches:
   a. Reach 1: Gile Dam to US Highway 2

      N/A

   b. Reach 2: US Highway 2 to the confluence with the Montreal River

      N/A

5. Additional comments, if any, for the West Fork Montreal River:

   Online Gauge to see current flows.

LEVEL 1 ASSESSMENT, *MONTREAL RIVER* (Map 2)

REACH: MONTREAL RIVER CONFLUENCE TO SAXON FALLS PROJECT (Class I/II)

Please provide your knowledge regarding the following:

1. Have you previously boated this reach of the *Montreal River*? Yes ☐ No ☒
   a. If yes, how often do you use this reach for whitewater recreation?

   b. If yes, where do you access this reach for whitewater recreation?

   c. Is there suitable access to this reach for Class I/II boating opportunities?
      - If yes, where?

      - If no, where would you recommend locating an acceptable access point?

2. If you have used this reach for whitewater recreation:
   a. What single flow or flow range (min to max) provides a suitable boating opportunity?

   b. What type of watercraft can be used at this single flow or flow range?

   c. What boater experience level is suitable for this single flow or flow range?

3. What characteristics, if any, of this reach make it suitable for whitewater recreation?

4. What characteristics, if any, of this reach make it unsuitable for whitewater recreation?

LEVEL 1 ASSESSMENT, BOATING OPPORTUNITIES IN THE AREA (Map 3)

Map 3 shows the watershed boundary for the Gile Project. Are you familiar with other Class I/II boating opportunities within or in the vicinity of the watershed boundary?

If yes, use the space below to provide information on those opportunities, such as location or name, river characteristics, estimated flows, public access availability or constraints, and any other information that may help characterize other Class I/II boating opportunities in this area.

Section below Saxton is fun at higher water.

Cool geology to look at in the canyon

Thank you for participating in the Level 1 Assessment for the Gile Project

Generally accepted whitewater difficulty class definitions:

Class I: easy but fast moving water, small waves, passages clear, no serious obstacles, perfect for all ages and abilities. Skill Level: very basic.

Class II: rough and fast moving water; rocks, small ledges, and other obstacles which might require some maneuvering. Skill level: basic paddling skill.

Class III: swift whitewater, small to medium waves, rocks, eddies, rapids with narrow but clear passages, requires significant maneuvering to navigate successfully but the consequences of error are generally minimal. Skill level: experienced guide recommended.

Class IV: challenging whitewater with powerful waves, long rapids, difficult to avoid rocks, boiling eddies; powerful and precise maneuvering required. Skill level: experienced guide required.

Class V: extreme whitewater with large waves, large volume, large rocks difficult to avoid and potentially deadly hazards, large drops often over 10 feet which require precise maneuvering. Skill level: experienced guide and experienced crew required.

Boater participant, please complete the following:

Name:	Nathan Spindler
Affiliation:	Rapids Riders
Zip Code:	54703
Email:	
Years of Experience:	4

LEVEL 1 ASSESSMENT, *WEST FORK MONTREAL RIVER* (Map 1)

REACH: US HIGHWAY 2 to MONTREAL RIVER CONFLUENCE (Class I/II)

Please provide your knowledge regarding the following:

1. Have you previously boated the *West Fork Montreal River*? Yes ☐ No ☒

   a. If yes, how often do you use the West Fork Montreal River for whitewater recreation?

   b. If yes, which reach of the West Fork Montreal River do you use for whitewater recreation?
      - Reach 1: Gile Dam to US Highway 2 (yes or no)
      - Reach 2: US Highway 2 to the confluence with the Montreal River (yes or no)

   c. If yes, where do you access the West Fork Montreal River for whitewater recreation?

   d. Is there suitable access downstream of US Highway 2 to the confluence with the Montreal River for Class I/II boating opportunities?
      - If yes, where?
      - If no, where would you recommend locating an acceptable access point?

2. If you have used the West Fork Montreal River for whitewater recreation from US Highway 2 to the confluence with the Montreal River (as indicated in 1.b): (if no, skip to 3)
   a. What single flow or flow range (min to max) provides a suitable boating opportunity?

   b. What type of watercraft can be used at this single flow or flow range?

   c. What boater experience level is suitable for this single flow or flow range?

3. What characteristics, if any, of the West Fork Montreal River make it suitable for whitewater recreation for the following reaches:
   a. Reach 1: Gile Dam to US Highway 2

   b. Reach 2: US Highway 2 to the confluence with the Montreal River

4. What characteristics, if any, of the West Fork Montreal River make it unsuitable for whitewater recreation for the following reaches:
   a. Reach 1: Gile Dam to US Highway 2

   b. Reach 2: US Highway 2 to the confluence with the Montreal River

5. Additional comments, if any, for the West Fork Montreal River:

LEVEL 1 ASSESSMENT, *MONTREAL RIVER* (Map 2)

REACH: MONTREAL RIVER CONFLUENCE TO SAXON FALLS PROJECT (Class I/II)

Please provide your knowledge regarding the following:

1. Have you previously boated this reach of the *Montreal River*? Yes ☐ No ☒
   a. If yes, how often do you use this reach for whitewater recreation?

   b. If yes, where do you access this reach for whitewater recreation?

   c. Is there suitable access to this reach for Class I/II boating opportunities?
      - If yes, where?

      - If no, where would you recommend locating an acceptable access point?

2. If you have used this reach for whitewater recreation:
   a. What single flow or flow range (min to max) provides a suitable boating opportunity?

   b. What type of watercraft can be used at this single flow or flow range?

   c. What boater experience level is suitable for this single flow or flow range?

3. What characteristics, if any, of this reach make it suitable for whitewater recreation?

4. What characteristics, if any, of this reach make it unsuitable for whitewater recreation?

LEVEL 1 ASSESSMENT, BOATING OPPORTUNITIES IN THE AREA (Map 3)

Map 3 shows the watershed boundary for the Gile Project. Are you familiar with other Class I/II boating opportunities within or in the vicinity of the watershed boundary?

If yes, use the space below to provide information on those opportunities, such as location or name, river characteristics, estimated flows, public access availability or constraints, and any other information that may help characterize other Class I/II boating opportunities in this area.

Thank you for participating in the Level 1 Assessment for the Gile Project

Generally accepted whitewater difficulty class definitions:

Class I: easy but fast moving water, small waves, passages clear, no serious obstacles, perfect for all ages and abilities. Skill Level: very basic.

Class II: rough and fast moving water; rocks, small ledges, and other obstacles which might require some maneuvering. Skill level: basic paddling skill.

Class III: swift whitewater, small to medium waves, rocks, eddies, rapids with narrow but clear passages, requires significant maneuvering to navigate successfully but the consequences of error are generally minimal. Skill level: experienced guide recommended.

Class IV: challenging whitewater with powerful waves, long rapids, difficult to avoid rocks, boiling eddies; powerful and precise maneuvering required. Skill level: experienced guide required.

Class V: extreme whitewater with large waves, large volume, large rocks difficult to avoid and potentially deadly hazards, large drops often over 10 feet which require precise maneuvering. Skill level: experienced guide and experienced crew required.

Boater participant, please complete the following:

Name:	Kayla Sturgeon
Affiliation:	Rapids Riders
Zip Code:	55944
Email:	
Years of Experience:	

LEVEL 1 ASSESSMENT, *WEST FORK MONTREAL RIVER* (Map 1)

REACH: US HIGHWAY 2 to MONTREAL RIVER CONFLUENCE (Class I/II)

Please provide your knowledge regarding the following:

1. Have you previously boated the *West Fork Montreal River*? Yes ☐ No ☒
   a. If yes, how often do you use the West Fork Montreal River for whitewater recreation?

   b. If yes, which reach of the West Fork Montreal River do you use for whitewater recreation?
      - Reach 1: Gile Dam to US Highway 2 (yes or no)
      - Reach 2: US Highway 2 to the confluence with the Montreal River (yes or no)

   c. If yes, where do you access the West Fork Montreal River for whitewater recreation?

   d. Is there suitable access downstream of US Highway 2 to the confluence with the Montreal River for Class I/II boating opportunities?
      - If yes, where?
      - If no, where would you recommend locating an acceptable access point?

2. If you have used the West Fork Montreal River for whitewater recreation from US Highway 2 to the confluence with the Montreal River (as indicated in 1.b): (if no, skip to 3) NO
   a. What single flow or flow range (min to max) provides a suitable boating opportunity?

   b. What type of watercraft can be used at this single flow or flow range?

   c. What boater experience level is suitable for this single flow or flow range?

3. What characteristics, if any, of the West Fork Montreal River make it suitable for whitewater recreation for the following reaches:
   a. Reach 1: Gile Dam to US Highway 2

   b. Reach 2: US Highway 2 to the confluence with the Montreal River

4. What characteristics, if any, of the West Fork Montreal River make it unsuitable for whitewater recreation for the following reaches:
   a. Reach 1: Gile Dam to US Highway 2

   b. Reach 2: US Highway 2 to the confluence with the Montreal River

5. Additional comments, if any, for the West Fork Montreal River:

LEVEL 1 ASSESSMENT, *MONTREAL RIVER* (Map 2)

REACH: MONTREAL RIVER CONFLUENCE TO SAXON FALLS PROJECT (Class I/II)

Please provide your knowledge regarding the following:

1. Have you previously boated this reach of the *Montreal River*? Yes ☐ No ☒
   a. If yes, how often do you use this reach for whitewater recreation?

   b. If yes, where do you access this reach for whitewater recreation?

   c. Is there suitable access to this reach for Class I/II boating opportunities?
      - If yes, where?

      - If no, where would you recommend locating an acceptable access point?

2. If you have used this reach for whitewater recreation:
   a. What single flow or flow range (min to max) provides a suitable boating opportunity?

   b. What type of watercraft can be used at this single flow or flow range?

   c. What boater experience level is suitable for this single flow or flow range?

3. What characteristics, if any, of this reach make it suitable for whitewater recreation?

4. What characteristics, if any, of this reach make it unsuitable for whitewater recreation?

LEVEL 1 ASSESSMENT, BOATING OPPORTUNITIES IN THE AREA (Map 3)

Map 3 shows the watershed boundary for the Gile Project. Are you familiar with other Class I/II boating opportunities within or in the vicinity of the watershed boundary? No

If yes, use the space below to provide information on those opportunities, such as location or name, river characteristics, estimated flows, public access availability or constraints, and any other information that may help characterize other Class I/II boating opportunities in this area.

Could look on American Whitewater for known options in the area

Thank you for participating in the Level 1 Assessment for the Gile Project

Generally accepted whitewater difficulty class definitions:

Class I: easy but fast moving water, small waves, passages clear, no serious obstacles, perfect for all ages and abilities. Skill Level: very basic.

Class II: rough and fast moving water; rocks, small ledges, and other obstacles which might require some maneuvering. Skill level: basic paddling skill.

Class III: swift whitewater, small to medium waves, rocks, eddies, rapids with narrow but clear passages, requires significant maneuvering to navigate successfully but the consequences of error are generally minimal. Skill level: experienced guide recommended.

Class IV: challenging whitewater with powerful waves, long rapids, difficult to avoid rocks, boiling eddies; powerful and precise maneuvering required. Skill level: experienced guide required.

Class V: extreme whitewater with large waves, large volume, large rocks difficult to avoid and potentially deadly hazards, large drops often over 10 feet which require precise maneuvering. Skill level: experienced guide and experienced crew required.

Boater participant, please complete the following:

Name:	Matt Sturgeon
Affiliation:	RapidsRiders.org
Zip Code:	
Email:	
Years of Experience:	

LEVEL 1 ASSESSMENT, *WEST FORK MONTREAL RIVER* (Map 1)

REACH: US HIGHWAY 2 to MONTREAL RIVER CONFLUENCE (Class I/II)

Please provide your knowledge regarding the following:

1. Have you previously boated the *West Fork Montreal River*? Yes ☐ No ☑

   a. If yes, how often do you use the West Fork Montreal River for whitewater recreation?

   b. If yes, which reach of the West Fork Montreal River do you use for whitewater recreation?
      - Reach 1: Gile Dam to US Highway 2 (yes or no)
      - Reach 2: US Highway 2 to the confluence with the Montreal River (yes or no)

   c. If yes, where do you access the West Fork Montreal River for whitewater recreation?

   d. Is there suitable access downstream of US Highway 2 to the confluence with the Montreal River for Class I/II boating opportunities?
      - If yes, where?
      - If no, where would you recommend locating an acceptable access point?

      Unsafe

2. If you have used the West Fork Montreal River for whitewater recreation from US Highway 2 to the confluence with the Montreal River (as indicated in 1.b): (if no, skip to 3)
   a. What single flow or flow range (min to max) provides a suitable boating opportunity?

   b. What type of watercraft can be used at this single flow or flow range?

   c. What boater experience level is suitable for this single flow or flow range?

3. What characteristics, if any, of the West Fork Montreal River make it suitable for whitewater recreation for the following reaches:
   a. Reach 1: Gile Dam to US Highway 2
   Not 100% Safe

   b. Reach 2: US Highway 2 to the confluence with the Montreal River

4. What characteristics, if any, of the West Fork Montreal River make it unsuitable for whitewater recreation for the following reaches:
   a. Reach 1: Gile Dam to US Highway 2

   b. Reach 2: US Highway 2 to the confluence with the Montreal River
   Not Much Overmatch

5. Additional comments, if any, for the West Fork Montreal River:

LEVEL 1 ASSESSMENT, *MONTREAL RIVER* (Map 2)

REACH: MONTREAL RIVER CONFLUENCE TO SAXON FALLS PROJECT (Class I/II)

Please provide your knowledge regarding the following:

1. Have you previously boated this reach of the *Montreal River*? Yes ☐ No ☑
   a. If yes, how often do you use this reach for whitewater recreation?

   b. If yes, where do you access this reach for whitewater recreation?

   c. Is there suitable access to this reach for Class I/II boating opportunities?
      - If yes, where?

      - If no, where would you recommend locating an acceptable access point?
        Good Take out and put in Mellen - Maybe Bike/Rail Road
2. If you have used this reach for whitewater recreation: NO
   a. What single flow or flow range (min to max) provides a suitable boating opportunity?

   b. What type of watercraft can be used at this single flow or flow range?

   c. What boater experience level is suitable for this single flow or flow range?

3. What characteristics, if any, of this reach make it suitable for whitewater recreation?
   class 3-4

4. What characteristics, if any, of this reach make it unsuitable for whitewater recreation?

LEVEL 1 ASSESSMENT, BOATING OPPORTUNITIES IN THE AREA (Map 3)

Map 3 shows the watershed boundary for the Gile Project. Are you familiar with other Class I/II boating opportunities within or in the vicinity of the watershed boundary?

If yes, use the space below to provide information on those opportunities, such as location or name, river characteristics, estimated flows, public access availability or constraints, and any other information that may help characterize other Class I/II boating opportunities in this area.

Thank you for participating in the Level 1 Assessment for the Gile Project

Generally accepted whitewater difficulty class definitions:

Class I: easy but fast moving water, small waves, passages clear, no serious obstacles, perfect for all ages and abilities. Skill Level: very basic.

Class II: rough and fast moving water; rocks, small ledges, and other obstacles which might require some maneuvering. Skill level: basic paddling skill.

Class III: swift whitewater, small to medium waves, rocks, eddies, rapids with narrow but clear passages, requires significant maneuvering to navigate successfully but the consequences of error are generally minimal. Skill level: experienced guide recommended.

Class IV: challenging whitewater with powerful waves, long rapids, difficult to avoid rocks, boiling eddies; powerful and precise maneuvering required. Skill level: experienced guide required.

Class V: extreme whitewater with large waves, large volume, large rocks difficult to avoid and potentially deadly hazards, large drops often over 10 feet which require precise maneuvering. Skill level: experienced guide and experienced crew required.

Boater participant, please complete the following:

Name:	TERRY WARD
Affiliation:	
Zip Code:	53144
Email:	twara1393@yahoo.com
Years of Experience:	7

LEVEL 1 ASSESSMENT, *WEST FORK MONTREAL RIVER* (Map 1)

REACH: US HIGHWAY 2 to MONTREAL RIVER CONFLUENCE (Class I/II)

Please provide your knowledge regarding the following:

1. Have you previously boated the *West Fork Montreal River*? Yes ☐ No ☑
   a. If yes, how often do you use the West Fork Montreal River for whitewater recreation?

   b. If yes, which reach of the West Fork Montreal River do you use for whitewater recreation?
      - Reach 1: Gile Dam to US Highway 2 (yes or no)
      - Reach 2: US Highway 2 to the confluence with the Montreal River (yes or no)

   c. If yes, where do you access the West Fork Montreal River for whitewater recreation?

   d. Is there suitable access downstream of US Highway 2 to the confluence with the Montreal River for Class I/II boating opportunities?
      - If yes, where?
      - If no, where would you recommend locating an acceptable access point?

2. If you have used the West Fork Montreal River for whitewater recreation from US Highway 2 to the confluence with the Montreal River (as indicated in 1.b): (if no, skip to 3)
   a. What single flow or flow range (min to max) provides a suitable boating opportunity?

   b. What type of watercraft can be used at this single flow or flow range?

   c. What boater experience level is suitable for this single flow or flow range?

3. What characteristics, if any, of the West Fork Montreal River make it suitable for whitewater recreation for the following reaches:
   a. Reach 1: Gile Dam to US Highway 2

   b. Reach 2: US Highway 2 to the confluence with the Montreal River

4. What characteristics, if any, of the West Fork Montreal River make it unsuitable for whitewater recreation for the following reaches:
   a. Reach 1: Gile Dam to US Highway 2

   b. Reach 2: US Highway 2 to the confluence with the Montreal River

5. Additional comments, if any, for the West Fork Montreal River:

LEVEL 1 ASSESSMENT, *MONTREAL RIVER* (Map 2)

REACH: MONTREAL RIVER CONFLUENCE TO SAXON FALLS PROJECT (Class I/II)

Please provide your knowledge regarding the following:

1. Have you previously boated this reach of the *Montreal River*? Yes ☐ No ☑
   a. If yes, how often do you use this reach for whitewater recreation?

   b. If yes, where do you access this reach for whitewater recreation?

   c. Is there suitable access to this reach for Class I/II boating opportunities?
      - If yes, where?

      - If no, where would you recommend locating an acceptable access point?

2. If you have used this reach for whitewater recreation:
   a. What single flow or flow range (min to max) provides a suitable boating opportunity?

   b. What type of watercraft can be used at this single flow or flow range?

   c. What boater experience level is suitable for this single flow or flow range?

3. What characteristics, if any, of this reach make it suitable for whitewater recreation?

4. What characteristics, if any, of this reach make it unsuitable for whitewater recreation?

LEVEL 1 ASSESSMENT, BOATING OPPORTUNITIES IN THE AREA (Map 3)

Map 3 shows the watershed boundary for the Gile Project. Are you familiar with other Class I/II boating opportunities within or in the vicinity of the watershed boundary?

If yes, use the space below to provide information on those opportunities, such as location or name, river characteristics, estimated flows, public access availability or constraints, and any other information that may help characterize other Class I/II boating opportunities in this area.

I AM NOT FAMILIAR

Thank you for participating in the Level 1 Assessment for the Gile Project

Generally accepted whitewater difficulty class definitions:

Class I: easy but fast moving water, small waves, passages clear, no serious obstacles, perfect for all ages and abilities. Skill Level: very basic.

Class II: rough and fast moving water; rocks, small ledges, and other obstacles which might require some maneuvering. Skill level: basic paddling skill.

Class III: swift whitewater, small to medium waves, rocks, eddies, rapids with narrow but clear passages, requires significant maneuvering to navigate successfully but the consequences of error are generally minimal. Skill level: experienced guide recommended.

Class IV: challenging whitewater with powerful waves, long rapids, difficult to avoid rocks, boiling eddies; powerful and precise maneuvering required. Skill level: experienced guide required.

Class V: extreme whitewater with large waves, large volume, large rocks difficult to avoid and potentially deadly hazards, large drops often over 10 feet which require precise maneuvering. Skill level: experienced guide and experienced crew required.

Appendix J Level 2 Assessment – Correspondence

Jen Schuetz

From: Jen Schuetz
Sent: Thursday, June 9, 2022 2:18 PM
To: Thomas O'Keefe
Cc: tokey_boswell@nps.gov; susan_rosebrough@nps.gov; David Thomson (dave_thomson@NPS.gov); lillian_jonas@contractor.nps.gov; angietornes@gmail.com; Miller, Matthew J; Crotty, Scott A; Shawn Puzen; Darrin Johnson; Jake Ring; Jen Schuetz
Subject: RE: Gile Flowage Project Whitewater Recreation Flow Study

Hello Tom,

Thank you for your response and your interest in the Gile whitewater study.

Your comments and questions are below, and my response follows each.

1. Thank you for the update and information. I will not be able to make it out for this but have communicated with Jake Ring and understand he anticipates sufficient turn out. Given that, I have not done any further promotion but please let me know if you need additional assistance in identifying qualified boaters.

Jake Ring communicated the same with me about the number of boaters, which he anticipates being 15 to 30. Of course, the exact number of participants will not be known until the day of the study and will be included in the Initial Study Report.

2. I am unclear on the meaning of this comment: "NSPW has determined it is unable to resolve inconsistencies with the 2007 study unless the dates of the boating experiences rated in the 2007 study are provided by American Whitewater." Could you clarify what inconsistencies you are trying to resolve.

American Whitewater submitted a letter to the Commission on March 17, 2021 regarding "Comments of American Whitewater on the Pre-Application Document and Proposed Study for the Gile Flowage Storage Reservoir Project", which included the following regarding the West Branch Montreal River:

"The study area econompasses the West Branch Montreal River from Gile Flowage to Highway 2 as identified in American Whitewater's National Whitewater Inventory. American Whitewater completed a survey-based flow study (i.e. a study where users self report flows and respond to an online survey) in 2007 determining that 400-1000 cfs was the optimal range. While we concluded that a significant population of river users would prefer higher flow releases, we did not evaluate flows greater than 1000 cfs. We determined that while some individuals have run the river at these higher flows, these opportunities are limited and unlikely to be provided for during a controlled release. Based on the results of our study we proposed an optimum release schedule for a weekend of two releases that would begin with a release of 600 cfs on Saturday morning at 10 am and until 4 pm, and a second release day of 800-1,000 cfs on Sunday, which would begin at 10 am and end at 4 pm. If the release schedule had to be limited to one day we concluded a flow of 600-800 cfs should be released between 10 am and 4 pm on a Saturday. A limitation of this study was the fact that users self-reported their runs and in some cases estimating flows and scoring flows that they may not have actually experienced. The study provides a useful starting point but results need to be confirmed to be used as the basis for protection, mitigation, and enhancement measures for recreation in a new license."

NSPW held a virtual meeting on May, 20, 2021, which you attended, to discuss the Gile Flowage Storage Reservoir Proposed Study Plan Meeting. You discussed that American Whitewater has additional data regarding the 2007 study and can e-file that information to the Commission so it can be placed on the Docket. To date, no additional information on the 2007 study has been e-filed to the Docket.

In discussions with local boaters, 400 cfs is believed to be too low to adequately boat, which contradicts the 2007 study that says 400 cfs is the minimum boatable flow. The Commission asked NSPW to try to resolve the contradiction or inconsistencies with the 400 cfs flow level in 2007 study as part of a Level 2 assessment for the Gile whitewater study. In order for NSPW to reconcile the discrepancies of the 2007 study, American Whitewater needs to provide the dates boating occurred in the 2007. If the dates are provided, NSPW can review their operational records for those boating dates to determine the flow (cfs) that occurred in the West Fork Montreal River and could then "calibrate" the results of the 2007 study. This calibrated flow (cfs) would be important to determine the starting flow for the Gile whitewater study that will take place starting at 10:00 am on Saturday, June 11, 2022.

3. I don't believe I have seen the survey instrument you will be using. My apologies if I have missed it but could you please circulate that.

American Whitewater, as well as the National Park Service, was provided the boater survey forms for review and comment with the revised study plan in April of 2021. The FERC approved the boater survey forms in their study plan determination in September of 2021. NSPW will use the survey forms approved by the FERC for the Gile whitewater study.

4. The target flow range sounds right to me with the caveat you have to refine based on perspectives of those on site.

After consultation with Jake Ring, the starting flow will be 600 cfs. The additional flow(s) studied will be based on boater assessment onsite after the first flow of 600 cfs is completed and reviewed with all present boaters and NSPW during the Level 2 assessment for the Gile whitewater study.

5. Your plan for Rock Cut Falls makes sense to me. If that site does require a portage, boaters should still do a land-based assessment of the rapid during the capture—i.e. please make sure you capture boater perspectives on attributes of the rapid at the various flows even if they are not able to run it.

NSPW is confident the participating boaters will provide their perspective on the rapid attributes during the survey portion of the study. The written boater surveys provide an opportunity to identify and describe boatability, challenges, portages, safety, and any other additional information they wish to provide. NSPW will also capture any verbal discussions that occur with or between boaters throughout the study. The survey results will be included in the Initial Study Report.

If further clarification is needed for any items above, please let me know.

Thank you,

Jen

JEN SCHUETZ
GIS AND COMPLIANCE SPECIALIST, WATER
(She, Her, Hers)
Mead & Hunt
Direct: 608-443-0460 | Transfer Files
meadhunt.com | LinkedIn | Twitter | Facebook | Instagram

-----Original Message-----
From: Thomas O'Keefe <okeefe@americanwhitewater.org>
Sent: Wednesday, June 8, 2022 2:54 PM
To: Jen Schuetz <jen.schuetz@meadhunt.com>
Cc: tokey_boswell@nps.gov; susan_rosebrough@nps.gov; David Thomson (dave_thomson@NPS.gov) <dave_thomson@NPS.gov>; lillian_jonas@contractor.nps.gov; angietornes@gmail.com; Miller, Matthew J <Matthew.j.miller@xcelenergy.com>; Crotty, Scott A <scott.a.crotty@xcelenergy.com>; Shawn Puzen <Shawn.Puzen@meadhunt.com>; Darrin Johnson <Darrin.Johnson@meadhunt.com>; Jake Ring <jake@ringoproductions.com>
Subject: Re: Gile Flowage Project Whitewater Recreation Flow Study

Jen,

Thank you for the update and information. I will not be able to make it out for this but have communicated with Jake Ring and understand he anticipates sufficient turn out. Given that, I have not done any further promotion but please let me know if you need additional assistance in identifying qualified boaters. I am unclear on the meaning of this comment: "NSPW has determined it is unable to resolve inconsistencies with the 2007 study unless the dates of the boating experiences rated in the 2007 study are provided by American Whitewater." Could you clarify what inconsistencies you are trying to resolve.

I don't believe I have seen the survey instrument you will be using. My apologies if I have missed it but could you please circulate

that.

The target flow range sounds right to me with the caveat you have to refine based on perspectives of those on site.

Your plan for Rock Cut Falls makes sense to me. If that site does require a portage, boaters should still do a land-based assessment of the rapid during the capture—i.e. please make sure you capture boater perspectives on attributes of the rapid at the various flows even if they are not able to run it.

Thank you,

Tom

Thomas O'Keefe, PhD
Pacific Northwest Stewardship Director
American Whitewater
3537 NE 87th St.
Seattle, WA 98115
425-417-9012
okeefe@americanwhitewater.org
@AmerWhitewater

> On May 24, 2022, at 9:46 AM, Jen Schuetz <jen.schuetz@meadhunt.com> wrote:
>
> Hello:
>
> Per the Federal Energy Regulatory Commission Study Plan Determination for the Gile Flowage Project dated September 24, 2021, Northern States Power Company, a Wisconsin Corporation (NSPW) will be conducting a Level 1, Level 2, and Level 3 Assessment (Whittaker et al., 2005) for a whitewater flow study at the Gile Project on Saturday, June 11, 2022. Boaters will gather at the Gile Park parking lot prior to the start of the Level 2 and Level 3 Assessments, which are anticipated to start at 10 am local time.
>
> Level 1 Assessment
> The Level 1 Assessment has been completed for the three reaches on the West Fork Montreal River from Gile Dam to Kimball Town Park. The initial study report will include a summary of literature reviewed, the hydrologic assessment, and transcripts and notes from interviews with recreationists and stakeholders. Based upon the Level 1 Assessment, flows between 600 - 1,000 cfs are being targeted for the Level 2 and Level 3 Assessments, which are scheduled to be completed on June 11, 2022.
>
> For the West Fork Montreal River reach downstream of US Highway 2 to the confluence with the Montreal River and on the Montreal River reach from the confluence to the Saxon Falls Project, NSPW will collect existing river recreation information, including other class I/II boating opportunities in the project area, public access locations and constraints to public access, and the physical attributes of the reaches from the boaters attending the Level 3 Assessment. Hydrology information will be assembled independently by NSPW for the initial study report.
>
> Level 2 Assessment - Gile Dam to Kimball Town Park As part of the
> initial Level 2 assessment in consultation with Jake Ring, flow releases for the Level 3 Assessment are anticipated between 600 – 1,000 cfs. The actual flow releases will be determined on site as part of the limited reconnaissance prior to the start of the Level 3 Assessment. NSPW has determined it is unable to resolve inconsistencies with the 2007 study unless the dates of the boating experiences rated in the 2007 study are provided by American Whitewater.
>
> Level 3 Assessment – Gile Dam to Kimball Town Park The Level 3
> Assessment will involve a minimum of ten boaters; NSPW is currently working with Jake Ring, to assemble a boater participant list.
>
> Boaters will evaluate up to three varying flow releases on three reaches between the Gile Dam and Kimball Town Park along the West Branch Montreal River (see attached map). The actual flow releases will be determined on site as part of the Level 2 Assessment (Limited Reconnaissance) prior to the start of the Level 3 Assessment. Water will be released from the Gile Flowage for each flow evaluated for the Level 3 Assessment.
>
> Boaters will begin each Level 3 Assessment run at the Gile Dam and will take-out at three locations to assess the flow using a provided evaluation form. The take-out locations were determined based on the Level 1 Assessment.
>
> Based on information gathered for the Level 2 Assessment, it was determined the Rock Cut Falls (Railroad Rapids) currently has a

log jam. This area is known to collect snags (American Whitewater). If the area continues to be impassable during the study, it will have to be portaged by the boaters and noted on the evaluation forms.
>
> Additional Information
> If you have boater recommendations for this study, information beneficial for the Level 1 Assessment of the reaches downstream of US Highway 2, additional information beneficial for the Level 2 Assessment, or additional date information for the 2007 study, please send the information to Jen Schuetz with Mead & Hunt at jen.schuetz@meadhunt.com.
>
> Any boater planning to attend or participate in the study will need to RSVP to Jen Schuetz with Mead & Hunt atjen.schuetz@meadhunt.com no later than June 3, 2022 to ensure the correct number of liability waivers and evaluation forms are available. If there are not enough liability waivers or evaluation forms available, a boater may not be able to participate in the study.
>
> Gile Park Meeting Location
> 14 Park Street, Gile, WI 54525
> Latitude: 46.425635°
> Longitude: -90.224094°
>
> <image001.png>
>
> You are also hereby invited to attend and observe the study. If you plan to attend, an RSVP is appreciated.
>
> Thank you.
>
>
> JEN SCHUETZ
> GIS AND COMPLIANCE SPECIALIST, WATER
> (She, Her, Hers)
> Mead & Hunt
> Direct: 608-443-0460 | Transfer Files meadhunt.com | LinkedIn |
> Twitter | Facebook | Instagram
> 120 YEARS OF SHAPING THE FUTURE
>
>

>
> <Gile Whitewater Study_Level 3 Assessment Map.pdf>

Jen Schuetz

From: Jen Schuetz
Sent: Thursday, June 2, 2022 10:04 AM
To: Jake Ring
Cc: Jen Schuetz
Subject: RE: Whitewater Boating Study for the Gile
Attachments: Gile Whitewater Study_Level 3 Assessment Map.pdf

Morning Jake:

The plan is to meet at the Gile Park on Saturday, June 11. The park is located at 14 Park Street, Gile, WI 54525. I do not know the lead-time paddlers need to get prepped, feel free to arrive at Gile Park any time that morning based on the anticipated first run to begin around 10:00 a.m.

That plan for right now is: each paddler will run the first selected flow (600 cfs for example) from Gile Dam to South Bridge, takeout to fill out the survey for Reach 1 (see attached map); put back in and paddle to Center Drive Bridge, takeout to fill out the survey for Reach 2; put back in and paddle to Kimball Falls Park Bridge, takeout to fill out the survey for Reach 3; and then return to Gile Park while the next selected flow ramps up/down and repeat for the second run. If time allows and there is paddler interest, a third run may occur.

There is an optional Reach 4 that may be run but is not required by the study plan determination from the Federal Regulatory Energy Commission. This optional reach from Kimball Falls Park Bridge to the USH 2 Bridge might be run depending on safety, egress options, and time. Kimball Falls Park Bridge provides a public access area to take-out/park, whereas no public takeout options/parking are available at the USH 2 Bridge. In additional, egress onto a US Highway is not ideal and there are homes nearby (no trespassing). Paddler safety is the main factor and we will discuss this optional reach with the paddlers on June 11 to gauge interest. If it is determine this reach will not be run, any information we obtain from the paddlers about the reach will be helpful to our study.

Please let me know if you have any other questions or need additional information prior to study.

What I need from you prior to the study is the names of paddlers or your best estimate of the number of paddlers. We need to bring the proper amount of supplies (clipboards, writing material, waivers, surveys, etc).

Thank you,

Jen

JEN SCHUETZ
GIS AND COMPLIANCE SPECIALIST, WATER
(She, Her, Hers)
Mead & Hunt
Direct: 608-443-0460 | Transfer Files
meadhunt.com | LinkedIn | Twitter | Facebook | Instagram

From: Jake Ring <jake@ringoproductions.com>
Sent: Thursday, June 2, 2022 8:39 AM
To: Jen Schuetz <jen.schuetz@meadhunt.com>
Subject: RE: Whitewater Boating Study for the Gile

I will attempt to get a rough list of who is interested. They will want to know what time and where to meet on Saturday morning. Also where the takeout will be since it mentions Kimball Park and US2 on the map. I'll share that info and get a list to you.

Jake

From: Jen Schuetz
Sent: Tuesday, May 31, 2022 10:32 AM
To: Jake Ring
Subject: RE: Whitewater Boating Study for the Gile

Good Morning!

We will propose to conduct the first flow at 600 cfs and after that portion of the study concludes, we can discuss with all the paddlers if 1,000 cfs would be best.

Do you have a list of potential paddlers for the study? If so, names would be beneficial so I can prep some paperwork before the study. We are targeting at least 10 volunteers, is that doable?

Thanks Jake,

Jen

JEN SCHUETZ
GIS AND COMPLIANCE SPECIALIST, WATER
(She, Her, Hers)
Mead & Hunt
Direct: 608-443-0460 | Transfer Files
meadhunt.com | LinkedIn | Twitter | Facebook | Instagram

From: Jake Ring <jake@ringoproductions.com>
Sent: Tuesday, May 31, 2022 10:26 AM
To: Jen Schuetz <jen.schuetz@meadhunt.com>
Subject: RE: Whitewater Boating Study for the Gile

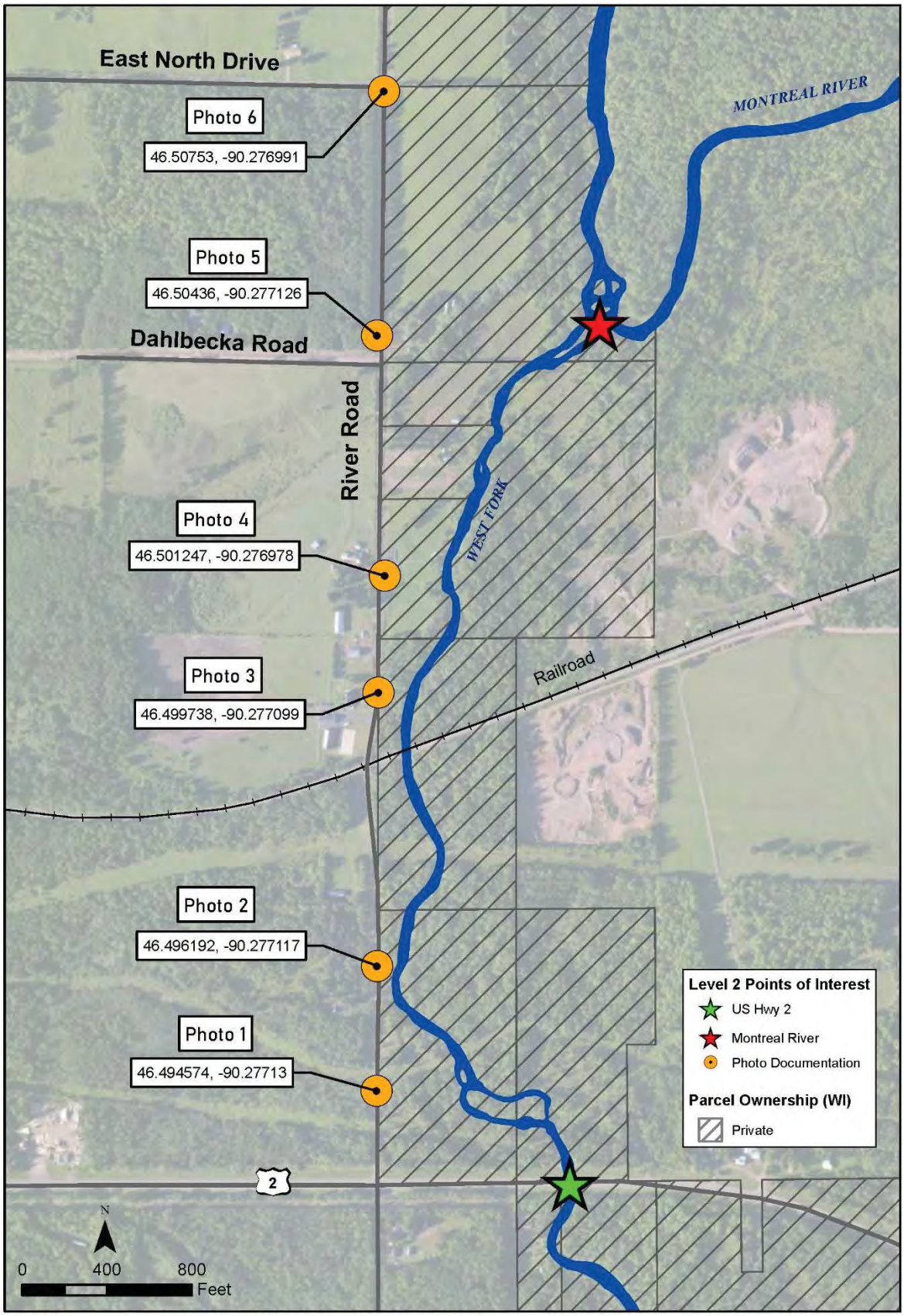
Hi Jen,

It sounds like if we are doing 2 flows, 600 cfs and 1000 cfs would make sense. As you might assume there is a lot of variation in paddler opinion related to proper flows and preferred levels. Let me know what you think and what else you need to know!

Jake

Appendix K Level 2 Assessment – Field Reconnaissance

Level 2 Assessment Field Reconnaissance – West Fork US Hwy 2 to Confluence with Montreal River Road Field Reconnaissance



River Road Photo 1

River Road Photo 2

River Road Photo 3

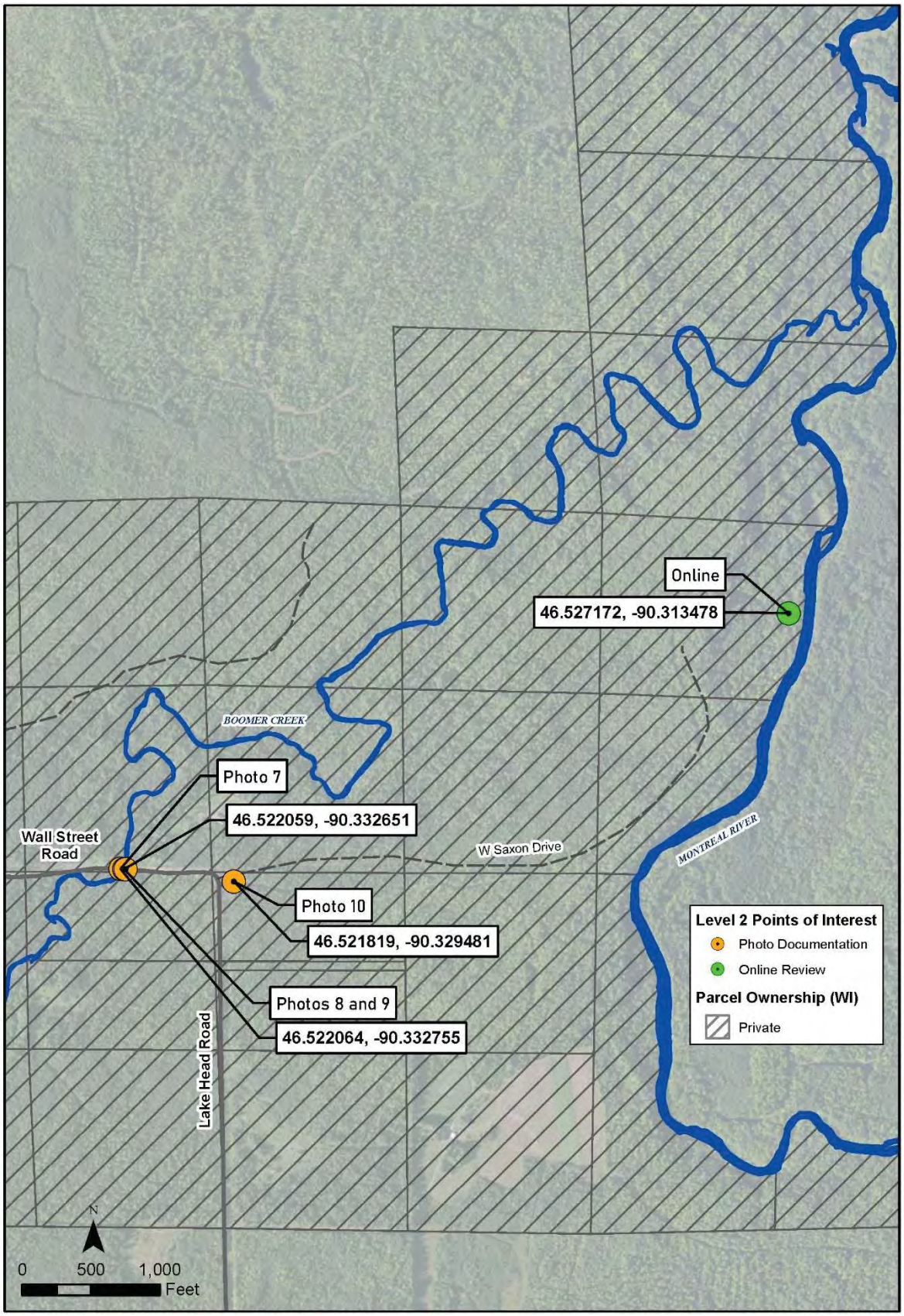
River Road Photo 4

River Road Photo 5

River Road Photo 6

Level 2 Assessment Field Reconnaissance – Confluence with Montreal to Saxon Falls

Wall Street Road, Lake Head Road, and W Saxon Drive Field Reconnaissance



Wall Street Road Bridge over Boomer Creek Photo 7

Boomer Creek Upstream from Bridge Photo 8

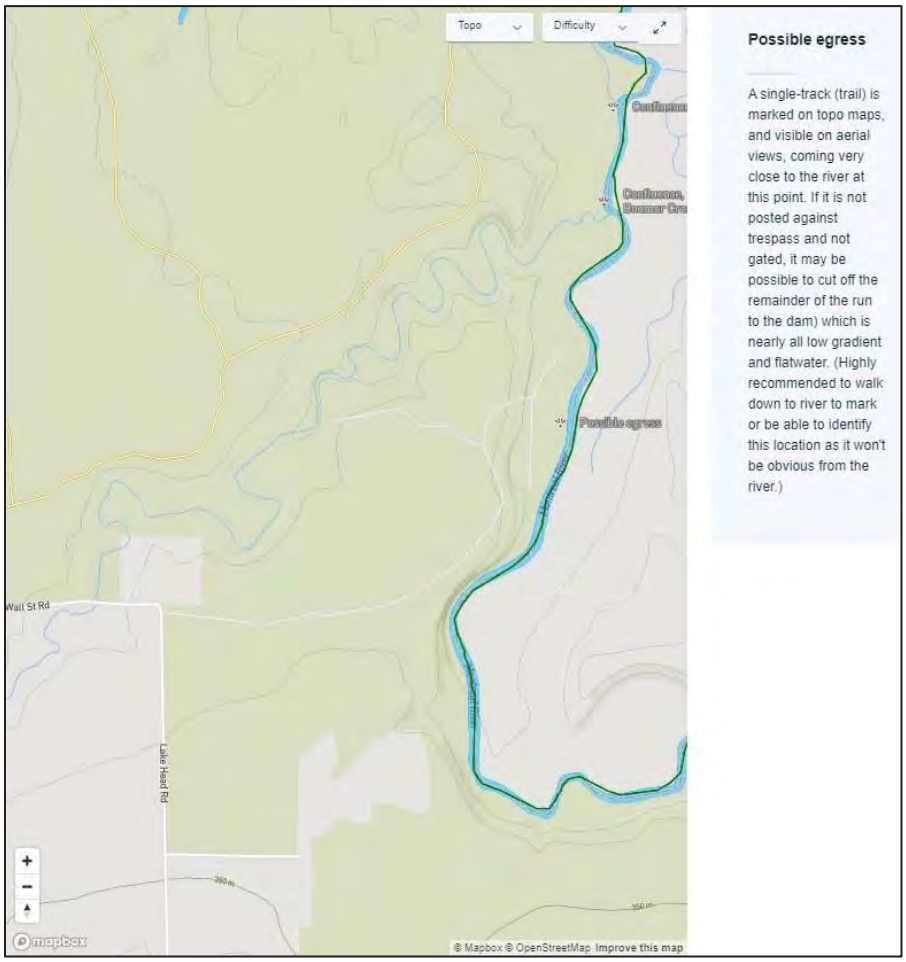
Boomer Creek Downtream from Bridge Photo 9

Lake Head Road Photo 10

Gate Access Locked east of Lake Head Road

Online Review

The American Whitewater website was reviewed for potential egress options along the Montreal River, which lists a possible egress option prior to reaching the confluence with Boomer Creek.[1] [2] Access to this location is across private property.



[1] https://www.americanwhitewater.org/content/River/view/river-detail/2825/main, accessed May 26, 2022.

[2] https://www.americanwhitewater.org/content/River/view/river-detail/2825/map ,accessed May 26, 2022.

Appendix L Level 3 Assessment – Correspondence

Note: redacted content does not pertain to the Gile Flowage Whitewater Study

Jen Schuetz

From: Jake Ring <jake@ringoproductions.com>
Sent: Wednesday, May 18, 2022 8:51 AM
To: Jen Schuetz
Cc: Jen Schuetz
Subject: RE: Whitewater Boating Study for the Gile

Categories: Filed by Newforma

Hello!

Got your voicemail. Don't worry about food, its not a big deal AT ALL and I just asked because someone on your side of things mentioned something last flow study and I had no clue at that point. No need to further discuss food, everyone will be self-sufficient as usual.

Good to know about the log jam. It will need to come out but yes, we will portage all hazards if that is the best option.

[redacted]
I will ask what the 2 most preferred flows are. I've gotten some feedback already and can see what the consensus is. When do you need to know by?

Jake

From: Jen Schuetz
Sent: Tuesday, May 17, 2022 10:11 AM
To: Jake Ring
Cc: Jen Schuetz
Subject: RE: Whitewater Boating Study for the Gile

Morning Jake:

I left you a voicemail a bit ago regarding food on the day(s) of the whitewater study at Gile.

I forgot to mention the log jam at Rock Cut Rapids. Simply stated, hydro owners/operators are not responsible for log jam removal and Xcel is unable to remove debris jams. This particular rapids is know for collecting debris, based on American Whitewater's website. I suspect you and the other boaters will scout the area and portage around it (you certainly understand this process much better than I do). This portage can be noted on the surveys that are filled out and will be incorporated into the study report.

A few more things for you:

[redacted]

3. Do you have an idea of what flow to start the Gile study with and what additional flows would be beneficial to test? I will be sending an email to AW and NPS this week and they will certainly ask what flows we plan to test.

Thank you again for your willingness to share your knowledge with me as I put this study together!

Jen

608-443-0460

JEN SCHUETZ
GIS AND COMPLIANCE SPECIALIST, WATER
(She, Her, Hers)
Mead & Hunt
Direct: 608-443-0460 | Transfer Files
meadhunt.com | LinkedIn | Twitter | Facebook | Instagram

From: Jake Ring <jake@ringoproductions.com>
Sent: Monday, May 16, 2022 8:47 AM
To: Jen Schuetz <jen.schuetz@meadhunt.com>
Subject: RE: Whitewater Boating Study for the Gile

No worries. I can take care of food and that is what we are used to.

I've been notified that there currently is a log jam in the main portion of Rock Cut Rapids area. Is there a way for you guys to remove that before the flow study? I am under the impression that it is completely impassable in that section due to the log jam location.

Jake

Appendix M Level 3 Assessment – Gile Flowage Whitewater Recreation Flow Public Notice

NEWS RELEASE

1414 West Hamilton Ave.
P.O. Box 8
Eau Claire, WI 54702-0008

Xcel Energy Media Relations
(715) 737-2565
www.xcelenergy.com

Xcel Energy to conduct Whitewater Flow Study Below Gile Flowage

EAU CLAIRE, Wis. (June 6, 2022) – Residents and recreationists who use the Gile Flowage may notice a minor drop in water levels this weekend while Xcel Energy conducts a Whitewater Flow Study downstream of the Gile Dam.

In 2020, the Federal Energy Regulatory Commission (FERC) issued an Order to Xcel Energy that found the Gile Flowage is required to be licensed. The FERC licensing process is a multi-year effort which involves a comprehensive assessment of environmental and recreational resources.

Beginning Saturday, June 11, there will likely be a modest drop in the reservoir elevation of two-three inches while the company performs a temporary increase in discharge from the dam, which is necessary to conduct the study. During that time nearly a dozen kayakers will participate in the study to determine:

- Access to and use of put-in and take-out locations.
- Identification of additional access points, if needed.
- Optimal and minimum flow releases for boating.
- Ideal time of year for boating this reach.
- Reach characteristics, such as local names for rapids or features.
- Difficulty rating and suitability for different types of watercraft.
- Safety concerns along the reach.
- Other boating resources in the area and how they compare.

The Whitewater Study is one of many studies that are part of the licensing process where the company is required to evaluate recreational opportunities that may exist below the dam, such as whitewater boating.

The licensing process includes numerous stakeholders including the Wisconsin Department of Natural Resources, Friends of the Gile, National Park Service, River Alliance of Wisconsin, U.S. Fish & Wildlife Service and Native American Tribes.

\# \# \#

The Gile Dam is one of 24 dams in Wisconsin owned and operated by Xcel Energy, 19 of which are hydroelectric facilities.

Appendix N Level 3 Assessment – Whitewater Study Participant Background Information

BOATER BACKGROUND INFORMATION

Please complete the following:

Name:	
Affiliation:	
Zip Code:	
Email:	
Preferred Craft:	

1. What is your current boating skill level (check one):

   Intermediate ☐ Advanced ☐ Expert ☐ Elite ☐

2. How many years have you been boating at this level: _____

3. In an average year, how many days do you boat: _____

4. Have you ever participated in a hydro relicensing whitewater boating study before: _____
   If yes, when (month/year or year) and for which river(s)/hydro project(s):

   _____

   _____

5. Have you boated this Reach (Gile Dam to Kimball Town Park) before today: _____
   If yes, how many times or how often: _____
   If yes, what were the flows: _____
   If yes, what type of craft(s) did you use: _____
   If no, why (challenge level, run length, did not know about it, other):

   _____

6. How far did you travel today to get to this location (miles): _____

Please respond to each statement about your overall river-running preferences:

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I prefer running rivers with fast water and small to no rapids (Class I/II/III).	5	4	3	2	1
I prefer running rivers with challenging rapids (Class IV).	5	4	3	2	1
I often boat short river segments (under 2 miles) to experience a unique and interesting place.	5	4	3	2	1
I often boat short river segments (under 2 miles) to take advantage of whitewater play areas.	5	4	3	2	1
I often boat short river segments (under 2 miles) to run challenging rapids.	5	4	3	2	1
Good whitewater play areas are more important than challenging rapids.	5	4	3	2	1
I am willing to tolerate difficult put-ins, portages, and take-outs to run interesting reaches of whitewater.	5	4	3	2	1
The most important consideration for planning my boating trips is running challenging whitewater.	5	4	3	2	1
The most important consideration for planning my boating trips is boating on a weekend, regardless of flow.	5	4	3	2	1

Difficulty – generally accepted definitions

Class I: easy but fast moving water, small waves, passages clear, no serious obstacles, perfect for all ages and abilities. Skill Level: very basic.

Class II: rough and fast moving water; rocks, small ledges, and other obstacles which might require some maneuvering. Skill level: basic paddling skill.

Class III: swift whitewater, small to medium waves, rocks, eddies, rapids with narrow but clear passages, requires significant maneuvering to navigate successfully but the consequences of error are generally minimal. Skill level: experienced guide recommended.

Class IV: challenging whitewater with powerful waves, long rapids, difficult to avoid rocks, boiling eddies; powerful and precise maneuvering required. Skill level: experienced guide required.

Class V: extreme whitewater with large waves, large volume, large rocks difficult to avoid and potentially deadly hazards, large drops often over 10 feet which require precise maneuvering. Skill level: experienced guide and experienced crew required.

BOATER BACKGROUND INFORMATION

Please complete the following:

Name:	Ben Bjorkman
Affiliation:	Kosir's Rafting
Zip Code:	49802
Email:	BenBjork@hotmail.com
Preferred Craft:	Raft

1. What is your current boating skill level (check one):

   Intermediate ☐ Advanced ☐ Expert ☒ Elite ☐

2. How many years have you been boating at this level: 6

3. In an average year, how many days do you boat: 75-100

4. Have you ever participated in a hydro relicensing whitewater boating study before: no
   If yes, when (month/year or year) and for which river(s)/hydro project(s):

   _____

   _____

5. Have you boated this Reach (Gile Dam to Kimball Town Park) before today: no
   If yes, how many times or how often: _____
   If yes, what were the flows: _____
   If yes, what type of craft(s) did you use: _____
   If no, why (challenge level, run length, did not know about it, other):

   _____

6. How far did you travel today to get to this location (miles): 200

Please respond to each statement about your overall river-running preferences:

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I prefer running rivers with fast water and small to no rapids (Class I/II/III).	5	4	3	2	(1)
I prefer running rivers with challenging rapids (Class IV).	(5)	4	3	2	1
I often boat short river segments (under 2 miles) to experience a unique and interesting place.	5	4	(3)	2	1
I often boat short river segments (under 2 miles) to take advantage of whitewater play areas.	5	(4)	3	2	1
I often boat short river segments (under 2 miles) to run challenging rapids.	5	(4)	3	2	1
Good whitewater play areas are more important than challenging rapids.	5	4	(3)	2	1
I am willing to tolerate difficult put-ins, portages, and take-outs to run interesting reaches of whitewater.	(5)	4	3	2	1
The most important consideration for planning my boating trips is running challenging whitewater.	5	4	(3)	2	1
The most important consideration for planning my boating trips is boating on a weekend, regardless of flow.	5	4	(3)	2	1

Difficulty – generally accepted definitions

Class I: easy but fast moving water, small waves, passages clear, no serious obstacles, perfect for all ages and abilities. Skill Level: very basic.

Class II: rough and fast moving water; rocks, small ledges, and other obstacles which might require some maneuvering. Skill level: basic paddling skill.

Class III: swift whitewater, small to medium waves, rocks, eddies, rapids with narrow but clear passages, requires significant maneuvering to navigate successfully but the consequences of error are generally minimal. Skill level: experienced guide recommended.

Class IV: challenging whitewater with powerful waves, long rapids, difficult to avoid rocks, boiling eddies; powerful and precise maneuvering required. Skill level: experienced guide required.

Class V: extreme whitewater with large waves, large volume, large rocks difficult to avoid and potentially deadly hazards, large drops often over 10 feet which require precise maneuvering. Skill level: experienced guide and experienced crew required.

BOATER BACKGROUND INFORMATION

Please complete the following:

Name:	Jason Blankenheim
Affiliation:	Sioux Empire Paddlers
Zip Code:	57110
Email:	Jasonblankenheim@gmail.com
Preferred Craft:	Kayak

1. What is your current boating skill level (check one):

   Intermediate [X] Advanced [ ] Expert [ ] Elite [ ]

2. How many years have you been boating at this level: 3

3. In an average year, how many days do you boat: 30

4. Have you ever participated in a hydro relicensing whitewater boating study before: _____
   If yes, when (month/year or year) and for which river(s)/hydro project(s):
   NO

5. Have you boated this Reach (Gile Dam to Kimball Town Park) before today: No
   If yes, how many times or how often: _____
   If yes, what were the flows: _____
   If yes, what type of craft(s) did you use: _____
   If no, why (challenge level, run length, did not know about it, other):

6. How far did you travel today to get to this location (miles): 450 Miles

Please respond to each statement about your overall river-running preferences:

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I prefer running rivers with fast water and small to no rapids (Class I/II/III).	5	4	3	2	1
I prefer running rivers with challenging rapids (Class IV).	5	4	3	2	1
I often boat short river segments (under 2 miles) to experience a unique and interesting place.	5	4	3	2	1
I often boat short river segments (under 2 miles) to take advantage of whitewater play areas.	5	4	3	2	1
I often boat short river segments (under 2 miles) to run challenging rapids.	5	4	3	2	1
Good whitewater play areas are more important than challenging rapids.	5	4	3	2	1
I am willing to tolerate difficult put-ins, portages, and take-outs to run interesting reaches of whitewater.	5	4	3	2	1
The most important consideration for planning my boating trips is running challenging whitewater.	5	4	3	2	1
The most important consideration for planning my boating trips is boating on a weekend, regardless of flow.	5	4	3	2	1

Difficulty – generally accepted definitions

Class I: easy but fast moving water, small waves, passages clear, no serious obstacles, perfect for all ages and abilities. Skill Level: very basic.

Class II: rough and fast moving water; rocks, small ledges, and other obstacles which might require some maneuvering. Skill level: basic paddling skill.

Class III: swift whitewater, small to medium waves, rocks, eddies, rapids with narrow but clear passages, requires significant maneuvering to navigate successfully but the consequences of error are generally minimal. Skill level: experienced guide recommended.

Class IV: challenging whitewater with powerful waves, long rapids, difficult to avoid rocks, boiling eddies; powerful and precise maneuvering required. Skill level: experienced guide required.

Class V: extreme whitewater with large waves, large volume, large rocks difficult to avoid and potentially deadly hazards, large drops often over 10 feet which require precise maneuvering. Skill level: experienced guide and experienced crew required.

BOATER BACKGROUND INFORMATION

Please complete the following:

Name:	BRIAN CASTILLO
Affiliation:	
Zip Code:	54891
Email:	dynamicwaters@gmail.com
Preferred Craft:	HARDSHELL KAYAK

1. What is your current boating skill level (check one):

   Intermediate ☐ Advanced ☑ Expert ☐ Elite ☐

2. How many years have you been boating at this level: 20

3. In an average year, how many days do you boat: 60 - 100

4. Have you ever participated in a hydro relicensing whitewater boating study before: NO
   If yes, when (month/year or year) and for which river(s)/hydro project(s):

5. Have you boated this Reach (Gile Dam to Kimball Town Park) before today: YES
   If yes, how many times or how often: TRY TO WHENEVER IT RUNS
   If yes, what were the flows: 650, 1600, 1200, 1600
   If yes, what type of craft(s) did you use: HARDSHELL KAYAK
   If no, why (challenge level, run length, did not know about it, other):

6. How far did you travel today to get to this location (miles): 50

Please respond to each statement about your overall river-running preferences:

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I prefer running rivers with fast water and small to no rapids (Class I/II/III).	5	4	3	2	1
I prefer running rivers with challenging rapids (Class IV).	5	(4)	3	2	1
I often boat short river segments (under 2 miles) to experience a unique and interesting place.	5	4	(3)	2	1
I often boat short river segments (under 2 miles) to take advantage of whitewater play areas.	5	4	(3)	2	1
I often boat short river segments (under 2 miles) to run challenging rapids.	5	4	(3)	2	1
Good whitewater play areas are more important than challenging rapids.	5	(4)	3	2	1
I am willing to tolerate difficult put-ins, portages, and take-outs to run interesting reaches of whitewater.	(5)	4	3	2	1
The most important consideration for planning my boating trips is running challenging whitewater.	5	(4)	3	2	1
The most important consideration for planning my boating trips is boating on a weekend, regardless of flow.	5	(4)	3	2	1

Difficulty – generally accepted definitions

Class I: easy but fast moving water, small waves, passages clear, no serious obstacles, perfect for all ages and abilities. Skill Level: very basic.

Class II: rough and fast moving water; rocks, small ledges, and other obstacles which might require some maneuvering. Skill level: basic paddling skill.

Class III: swift whitewater, small to medium waves, rocks, eddies, rapids with narrow but clear passages, requires significant maneuvering to navigate successfully but the consequences of error are generally minimal. Skill level: experienced guide recommended.

Class IV: challenging whitewater with powerful waves, long rapids, difficult to avoid rocks, boiling eddies; powerful and precise maneuvering required. Skill level: experienced guide required.

Class V: extreme whitewater with large waves, large volume, large rocks difficult to avoid and potentially deadly hazards, large drops often over 10 feet which require precise maneuvering. Skill level: experienced guide and experienced crew required.

BOATER BACKGROUND INFORMATION

Please complete the following:

Name:	Aaron Erdrich
Affiliation:	
Zip Code:	54501
Email:	aaron_Erdrich@Hotmail.com
Preferred Craft:	Raft

1. What is your current boating skill level (check one):

   Intermediate ☐ Advanced ☐ Expert ☒ Elite ☐

2. How many years have you been boating at this level: 15 years

3. In an average year, how many days do you boat: 100 days

4. Have you ever participated in a hydro relicensing whitewater boating study before: No
   If yes, when (month/year or year) and for which river(s)/hydro project(s):

5. Have you boated this Reach (Gile Dam to Kimball Town Park) before today: Yes
   If yes, how many times or how often: 100
   If yes, what were the flows: 900 - 2000
   If yes, what type of craft(s) did you use: Raft
   If no, why (challenge level, run length, did not know about it, other):

6. How far did you travel today to get to this location (miles): 1700

Please respond to each statement about your overall river-running preferences:

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I prefer running rivers with fast water and small to no rapids (Class I/II/III).	5	(4)	3	2	1
I prefer running rivers with challenging rapids (Class IV).	5	(4)	3	2	1
I often boat short river segments (under 2 miles) to experience a unique and interesting place.	5	4	(3)	2	1
I often boat short river segments (under 2 miles) to take advantage of whitewater play areas.	5	4	(3)	2	1
I often boat short river segments (under 2 miles) to run challenging rapids.	5	4	(3)	2	1
Good whitewater play areas are more important than challenging rapids.	5	4	3	(2)	1
I am willing to tolerate difficult put-ins, portages, and take-outs to run interesting reaches of whitewater.	(5)	4	3	2	1
The most important consideration for planning my boating trips is running challenging whitewater.	5	4	(3)	2	1
The most important consideration for planning my boating trips is boating on a weekend, regardless of flow.	5	4	(3)	2	1

Difficulty – generally accepted definitions

Class I: easy but fast moving water, small waves, passages clear, no serious obstacles, perfect for all ages and abilities. Skill Level: very basic.

Class II: rough and fast moving water; rocks, small ledges, and other obstacles which might require some maneuvering. Skill level: basic paddling skill.

Class III: swift whitewater, small to medium waves, rocks, eddies, rapids with narrow but clear passages, requires significant maneuvering to navigate successfully but the consequences of error are generally minimal. Skill level: experienced guide recommended.

Class IV: challenging whitewater with powerful waves, long rapids, difficult to avoid rocks, boiling eddies; powerful and precise maneuvering required. Skill level: experienced guide required.

Class V: extreme whitewater with large waves, large volume, large rocks difficult to avoid and potentially deadly hazards, large drops often over 10 feet which require precise maneuvering. Skill level: experienced guide and experienced crew required.

BOATER BACKGROUND INFORMATION

Please complete the following:

Name:	Matthew Hanson
Affiliation:	
Zip Code:	
Email:	
Preferred Craft:	

1. What is your current boating skill level (check one):

   Intermediate ☐ Advanced ☐ Expert ☒ Elite ☐

2. How many years have you been boating at this level: 7

3. In an average year, how many days do you boat: 10+1

4. Have you ever participated in a hydro relicensing whitewater boating study before: No
   If yes, when (month/year or year) and for which river(s)/hydro project(s):

   _____

   _____

5. Have you boated this Reach (Gile Dam to Kimball Town Park) before today: No
   If yes, how many times or how often: _____
   If yes, what were the flows: _____
   If yes, what type of craft(s) did you use: _____
   If no, why (challenge level, run length, did not know about it, other):

   _____

6. How far did you travel today to get to this location (miles): 240

Please respond to each statement about your overall river-running preferences:

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I prefer running rivers with fast water and small to no rapids (Class I/II/III).	5	4	3	2	1
I prefer running rivers with challenging rapids (Class IV).	5	4	3	2	1
I often boat short river segments (under 2 miles) to experience a unique and interesting place.	5	4	3	2	1
I often boat short river segments (under 2 miles) to take advantage of whitewater play areas.	5	4	3	2	1
I often boat short river segments (under 2 miles) to run challenging rapids.	5	4	3	2	1
Good whitewater play areas are more important than challenging rapids.	5	4	3	2	1
I am willing to tolerate difficult put-ins, portages, and take-outs to run interesting reaches of whitewater.	5	4	3	2	1
The most important consideration for planning my boating trips is running challenging whitewater.	5	4	3	2	1
The most important consideration for planning my boating trips is boating on a weekend, regardless of flow.	5	4	3	2	1

Difficulty – generally accepted definitions

Class I: easy but fast moving water, small waves, passages clear, no serious obstacles, perfect for all ages and abilities. Skill Level: very basic.

Class II: rough and fast moving water; rocks, small ledges, and other obstacles which might require some maneuvering. Skill level: basic paddling skill.

Class III: swift whitewater, small to medium waves, rocks, eddies, rapids with narrow but clear passages, requires significant maneuvering to navigate successfully but the consequences of error are generally minimal. Skill level: experienced guide recommended.

Class IV: challenging whitewater with powerful waves, long rapids, difficult to avoid rocks, boiling eddies; powerful and precise maneuvering required. Skill level: experienced guide required.

Class V: extreme whitewater with large waves, large volume, large rocks difficult to avoid and potentially deadly hazards, large drops often over 10 feet which require precise maneuvering. Skill level: experienced guide and experienced crew required.

BOATER BACKGROUND INFORMATION

Please complete the following:

Name:	Elita Hecimovich
Affiliation:	Former Raft Guide / part time
Zip Code:	49801
Email:	elita.hecimovich@yahoo.com
Preferred Craft:	inflatable raft

1. What is your current boating skill level (check one):

   Intermediate ☐ Advanced ☐ Expert ☑ Elite ☐

2. How many years have you been boating at this level: 9 years

3. In an average year, how many days do you boat: 15 days

4. Have you ever participated in a hydro relicensing whitewater boating study before: NO
   If yes, when (month/year or year) and for which river(s)/hydro project(s):

   _____

   _____

5. Have you boated this Reach (Gile Dam to Kimball Town Park) before today: NO
   If yes, how many times or how often: _____
   If yes, what were the flows: _____
   If yes, what type of craft(s) did you use: _____
   If no, why (challenge level, run length, did not know about it, other):

   _____

6. How far did you travel today to get to this location (miles): 110

Please respond to each statement about your overall river-running preferences:

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I prefer running rivers with fast water and small to no rapids (Class I/II/III).	5	4	3	2	(1)
I prefer running rivers with challenging rapids (Class IV).	(5)	4	3	2	1
I often boat short river segments (under 2 miles) to experience a unique and interesting place.	(5)	4	3	2	1
I often boat short river segments (under 2 miles) to take advantage of whitewater play areas.	5	4	(3)	2	1
I often boat short river segments (under 2 miles) to run challenging rapids.	(5)	4	3	2	1
Good whitewater play areas are more important than challenging rapids.	5	4	(3)	2	1
I am willing to tolerate difficult put-ins, portages, and take-outs to run interesting reaches of whitewater.	(5)	4	3	2	1
The most important consideration for planning my boating trips is running challenging whitewater.	5	(4)	3	2	1
The most important consideration for planning my boating trips is boating on a weekend, regardless of flow.	5	4	(3)	2	1

Difficulty – generally accepted definitions

Class I: easy but fast moving water, small waves, passages clear, no serious obstacles, perfect for all ages and abilities. Skill Level: very basic.

Class II: rough and fast moving water; rocks, small ledges, and other obstacles which might require some maneuvering. Skill level: basic paddling skill.

Class III: swift whitewater, small to medium waves, rocks, eddies, rapids with narrow but clear passages, requires significant maneuvering to navigate successfully but the consequences of error are generally minimal. Skill level: experienced guide recommended.

Class IV: challenging whitewater with powerful waves, long rapids, difficult to avoid rocks, boiling eddies; powerful and precise maneuvering required. Skill level: experienced guide required.

Class V: extreme whitewater with large waves, large volume, large rocks difficult to avoid and potentially deadly hazards, large drops often over 10 feet which require precise maneuvering. Skill level: experienced guide and experienced crew required.

BOATER BACKGROUND INFORMATION

Please complete the following:

Name:	Austin Izzo
Affiliation:	
Zip Code:	49801
Email:	Austin-izzo@yahoo.com
Preferred Craft:	Raft

1. What is your current boating skill level (check one):

   Intermediate [✓] Advanced [ ] Expert [ ] Elite [ ]

2. How many years have you been boating at this level: 7

3. In an average year, how many days do you boat: 10-20

4. Have you ever participated in a hydro relicensing whitewater boating study before: NO
   If yes, when (month/year or year) and for which river(s)/hydro project(s):

5. Have you boated this Reach (Gile Dam to Kimball Town Park) before today: NO
   If yes, how many times or how often:
   If yes, what were the flows:
   If yes, what type of craft(s) did you use:
   If no, why (challenge level, run length, did not know about it, other):

6. How far did you travel today to get to this location (miles): 110 miles

Please respond to each statement about your overall river-running preferences:

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I prefer running rivers with fast water and small to no rapids (Class I/II/III).	5	4	3	2	(1)
I prefer running rivers with challenging rapids (Class IV).	5	(4)	3	2	1
I often boat short river segments (under 2 miles) to experience a unique and interesting place.	5	4	(3)	2	1
I often boat short river segments (under 2 miles) to take advantage of whitewater play areas.	5	(4)	3	2	1
I often boat short river segments (under 2 miles) to run challenging rapids.	5	(4)	3	2	1
Good whitewater play areas are more important than challenging rapids.	5	4	(3)	2	1
I am willing to tolerate difficult put-ins, portages, and take-outs to run interesting reaches of whitewater.	(5)	4	3	2	1
The most important consideration for planning my boating trips is running challenging whitewater.	(5)	4	3	2	1
The most important consideration for planning my boating trips is boating on a weekend, regardless of flow.	5	4	(3)	2	1

Difficulty – generally accepted definitions

Class I: easy but fast moving water, small waves, passages clear, no serious obstacles, perfect for all ages and abilities. Skill Level: very basic.

Class II: rough and fast moving water; rocks, small ledges, and other obstacles which might require some maneuvering. Skill level: basic paddling skill.

Class III: swift whitewater, small to medium waves, rocks, eddies, rapids with narrow but clear passages, requires significant maneuvering to navigate successfully but the consequences of error are generally minimal. Skill level: experienced guide recommended.

Class IV: challenging whitewater with powerful waves, long rapids, difficult to avoid rocks, boiling eddies; powerful and precise maneuvering required. Skill level: experienced guide required.

Class V: extreme whitewater with large waves, large volume, large rocks difficult to avoid and potentially deadly hazards, large drops often over 10 feet which require precise maneuvering. Skill level: experienced guide and experienced crew required.

BOATER BACKGROUND INFORMATION

Please complete the following:

Name:	Tim Kordeck
Affiliation:	
Zip Code:	49938
Email:	Tkord7@aol.com
Preferred Craft:	Kayak

1. What is your current boating skill level (check one):

   Intermediate ☐ Advanced ☐ Expert ☑ Elite ☐

2. How many years have you been boating at this level: 4

3. In an average year, how many days do you boat: 30

4. Have you ever participated in a hydro relicensing whitewater boating study before: Yes
   If yes, when (month/year or year) and for which river(s)/hydro project(s):
   Montreal Canyon 2021 XCEL

5. Have you boated this Reach (Gile Dam to Kimball Town Park) before today: Yes
   If yes, how many times or how often: once
   If yes, what were the flows: 1200 cfs
   If yes, what type of craft(s) did you use: Kayak
   If no, why (challenge level, run length, did not know about it, other):

6. How far did you travel today to get to this location (miles): 5

Please respond to each statement about your overall river-running preferences:

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I prefer running rivers with fast water and small to no rapids (Class I/II/III).	5	4	3	2	1
I prefer running rivers with challenging rapids (Class IV).	(5)	4	3	2	(1)
I often boat short river segments (under 2 miles) to experience a unique and interesting place.	(5)	4	3	2	1
I often boat short river segments (under 2 miles) to take advantage of whitewater play areas.	5	(4)	3	2	1
I often boat short river segments (under 2 miles) to run challenging rapids.	(5)	4	3	2	1
Good whitewater play areas are more important than challenging rapids.	5	4	3	(2)	1
I am willing to tolerate difficult put-ins, portages, and take-outs to run interesting reaches of whitewater.	(5)	4	3	2	1
The most important consideration for planning my boating trips is running challenging whitewater.	5	4	(3)	2	1
The most important consideration for planning my boating trips is boating on a weekend, regardless of flow.	5	(4)	3	2	1

Difficulty – generally accepted definitions

Class I: easy but fast moving water, small waves, passages clear, no serious obstacles, perfect for all ages and abilities. Skill Level: very basic.

Class II: rough and fast moving water; rocks, small ledges, and other obstacles which might require some maneuvering. Skill level: basic paddling skill.

Class III: swift whitewater, small to medium waves, rocks, eddies, rapids with narrow but clear passages, requires significant maneuvering to navigate successfully but the consequences of error are generally minimal. Skill level: experienced guide recommended.

Class IV: challenging whitewater with powerful waves, long rapids, difficult to avoid rocks, boiling eddies; powerful and precise maneuvering required. Skill level: experienced guide required.

Class V: extreme whitewater with large waves, large volume, large rocks difficult to avoid and potentially deadly hazards, large drops often over 10 feet which require precise maneuvering. Skill level: experienced guide and experienced crew required.

BOATER BACKGROUND INFORMATION

Please complete the following:

Name:	Brian Krueger
Affiliation:	
Zip Code:	53221
Email:	osv@wi.rr.com
Preferred Craft:	K1

1. What is your current boating skill level (check one):

   Intermediate ☐ Advanced ☐ Expert ☒ Elite ☐

2. How many years have you been boating at this level: 20+

3. In an average year, how many days do you boat: 20

4. Have you ever participated in a hydro relicensing whitewater boating study before: No
   If yes, when (month/year or year) and for which river(s)/hydro project(s):

5. Have you boated this Reach (Gile Dam to Kimball Town Park) before today: yes
   If yes, how many times or how often: 1
   If yes, what were the flows: 2 spring runoff (high)
   If yes, what type of craft(s) did you use: K1
   If no, why (challenge level, run length, did not know about it, other):

6. How far did you travel today to get to this location (miles): 300

Please respond to each statement about your overall river-running preferences:

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I prefer running rivers with fast water and small to no rapids (Class I/II/III).	5	4	3	(2)	1
I prefer running rivers with challenging rapids (Class IV).	(5)	4	3	2	1
I often boat short river segments (under 2 miles) to experience a unique and interesting place.	(5)	4	3	2	1
I often boat short river segments (under 2 miles) to take advantage of whitewater play areas.	(5)	4	3	2	1
I often boat short river segments (under 2 miles) to run challenging rapids.	(5)	4	3	2	1
Good whitewater play areas are more important than challenging rapids.	5	4	(3)	2	1
I am willing to tolerate difficult put-ins, portages, and take-outs to run interesting reaches of whitewater.	5	(4)	3	2	1
The most important consideration for planning my boating trips is running challenging whitewater.	5	4	(3)	2	1
The most important consideration for planning my boating trips is boating on a weekend, regardless of flow.	5	4	3	(2)	1

Difficulty – generally accepted definitions

Class I: easy but fast moving water, small waves, passages clear, no serious obstacles, perfect for all ages and abilities. Skill Level: very basic.

Class II: rough and fast moving water; rocks, small ledges, and other obstacles which might require some maneuvering. Skill level: basic paddling skill.

Class III: swift whitewater, small to medium waves, rocks, eddies, rapids with narrow but clear passages, requires significant maneuvering to navigate successfully but the consequences of error are generally minimal. Skill level: experienced guide recommended.

Class IV: challenging whitewater with powerful waves, long rapids, difficult to avoid rocks, boiling eddies; powerful and precise maneuvering required. Skill level: experienced guide required.

Class V: extreme whitewater with large waves, large volume, large rocks difficult to avoid and potentially deadly hazards, large drops often over 10 feet which require precise maneuvering. Skill level: experienced guide and experienced crew required.

BOATER BACKGROUND INFORMATION

Please complete the following:

Name:	TONY LOCKEN
Affiliation:	Kayaker
Zip Code:	55318
Email:	alocken10@yahoo.com
Preferred Craft:	

1. What is your current boating skill level (check one):

   Intermediate ☐ Advanced ☐ Expert ☒ Elite ☐

2. How many years have you been boating at this level: 10 years

3. In an average year, how many days do you boat: 50

4. Have you ever participated in a hydro relicensing whitewater boating study before: NO
   If yes, when (month/year or year) and for which river(s)/hydro project(s):

   _____

   _____

5. Have you boated this Reach (Gile Dam to Kimball Town Park) before today: Yes
   If yes, how many times or how often: 2 times
   If yes, what were the flows: once high water, once low
   If yes, what type of craft(s) did you use: Kayak
   If no, why (challenge level, run length, did not know about it, other):

   _____

6. How far did you travel today to get to this location (miles): Minneapolis, 5 hours

Please respond to each statement about your overall river-running preferences:

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I prefer running rivers with fast water and small to no rapids (Class I/II/III).	5	4	(3)	2	1
I prefer running rivers with challenging rapids (Class IV).	(5)	4	3	2	1
I often boat short river segments (under 2 miles) to experience a unique and interesting place.	5	4	(3)	2	1
I often boat short river segments (under 2 miles) to take advantage of whitewater play areas.	5	4	(3)	2	1
I often boat short river segments (under 2 miles) to run challenging rapids.	5	4	(3)	2	1
Good whitewater play areas are more important than challenging rapids.	5	4	3	(2)	1
I am willing to tolerate difficult put-ins, portages, and take-outs to run interesting reaches of whitewater.	5	(4)	3	2	1
The most important consideration for planning my boating trips is running challenging whitewater.	(5)	4	3	2	1
The most important consideration for planning my boating trips is boating on a weekend, regardless of flow.	(5)	4	3	2	1

Difficulty – generally accepted definitions

Class I: easy but fast moving water, small waves, passages clear, no serious obstacles, perfect for all ages and abilities. Skill Level: very basic.

Class II: rough and fast moving water; rocks, small ledges, and other obstacles which might require some maneuvering. Skill level: basic paddling skill.

Class III: swift whitewater, small to medium waves, rocks, eddies, rapids with narrow but clear passages, requires significant maneuvering to navigate successfully but the consequences of error are generally minimal. Skill level: experienced guide recommended.

Class IV: challenging whitewater with powerful waves, long rapids, difficult to avoid rocks, boiling eddies; powerful and precise maneuvering required. Skill level: experienced guide required.

Class V: extreme whitewater with large waves, large volume, large rocks difficult to avoid and potentially deadly hazards, large drops often over 10 feet which require precise maneuvering. Skill level: experienced guide and experienced crew required.

BOATER BACKGROUND INFORMATION

Please complete the following:

Name:	Hunter Rackliffe
Affiliation:	Rapid Riders
Zip Code:	55808
Email:	h.rackliffe218@gmail.com
Preferred Craft:	kayak

1. What is your current boating skill level (check one):

   Intermediate ☐ Advanced ☐ Expert ☒ Elite ☐

2. How many years have you been boating at this level: 3

3. In an average year, how many days do you boat: 40-50

4. Have you ever participated in a hydro relicensing whitewater boating study before: No
   If yes, when (month/year or year) and for which river(s)/hydro project(s):

5. Have you boated this Reach (Gile Dam to Kimball Town Park) before today: No
   If yes, how many times or how often: NA
   If yes, what were the flows: NA
   If yes, what type of craft(s) did you use: NA
   If no, why (challenge level, run length, did not know about it, other): NA

6. How far did you travel today to get to this location (miles): 130 miles

Please respond to each statement about your overall river-running preferences:

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I prefer running rivers with fast water and small to no rapids (Class I/II/III).	5	4	3	2	1
I prefer running rivers with challenging rapids (Class IV).	5	4	3	2	1
I often boat short river segments (under 2 miles) to experience a unique and interesting place.	5	4	3	2	1
I often boat short river segments (under 2 miles) to take advantage of whitewater play areas.	5	4	3	2	1
I often boat short river segments (under 2 miles) to run challenging rapids.	5	4	3	2	1
Good whitewater play areas are more important than challenging rapids.	5	4	3	2	1
I am willing to tolerate difficult put-ins, portages, and take-outs to run interesting reaches of whitewater.	5	4	3	2	1
The most important consideration for planning my boating trips is running challenging whitewater.	5	4	3	2	1
The most important consideration for planning my boating trips is boating on a weekend, regardless of flow.	5	4	3	2	1

Difficulty – generally accepted definitions

Class I: easy but fast moving water, small waves, passages clear, no serious obstacles, perfect for all ages and abilities. Skill Level: very basic.

Class II: rough and fast moving water; rocks, small ledges, and other obstacles which might require some maneuvering. Skill level: basic paddling skill.

Class III: swift whitewater, small to medium waves, rocks, eddies, rapids with narrow but clear passages, requires significant maneuvering to navigate successfully but the consequences of error are generally minimal. Skill level: experienced guide recommended.

Class IV: challenging whitewater with powerful waves, long rapids, difficult to avoid rocks, boiling eddies; powerful and precise maneuvering required. Skill level: experienced guide required.

Class V: extreme whitewater with large waves, large volume, large rocks difficult to avoid and potentially deadly hazards, large drops often over 10 feet which require precise maneuvering. Skill level: experienced guide and experienced crew required.

BOATER BACKGROUND INFORMATION

Please complete the following:

Name:	John Ray
Affiliation:	Raft Guide
Zip Code:	49802
Email:	JohnRay605@Yahoo.com
Preferred Craft:	Cronin Hyll Ducky

1. What is your current boating skill level (check one):

   Intermediate [✓] Advanced [ ] Expert [ ] Elite [ ]

2. How many years have you been boating at this level: 6

3. In an average year, how many days do you boat: 25

4. Have you ever participated in a hydro relicensing whitewater boating study before: No

   If yes, when (month/year or year) and for which river(s)/hydro project(s):

   _____

   _____

5. Have you boated this Reach (Gile Dam to Kimball Town Park) before today: No

   If yes, how many times or how often: _____

   If yes, what were the flows: _____

   If yes, what type of craft(s) did you use: _____

   If no, why (challenge level, run length, did not know about it, other):

   _____

6. How far did you travel today to get to this location (miles): 116 miles, I think from Kingsford, MI

Please respond to each statement about your overall river-running preferences:

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I prefer running rivers with fast water and small to no rapids (Class I/II/III).	5	4	3	(2)	1
I prefer running rivers with challenging rapids (Class IV).	5	(4)	3	2	1
I often boat short river segments (under 2 miles) to experience a unique and interesting place.	(5)	4	3	2	1
I often boat short river segments (under 2 miles) to take advantage of whitewater play areas.	5	(4)	3	2	1
I often boat short river segments (under 2 miles) to run challenging rapids.	5	(4)	3	2	1
Good whitewater play areas are more important than challenging rapids.	5	4	(3)	2	1
I am willing to tolerate difficult put-ins, portages, and take-outs to run interesting reaches of whitewater.	5	(4)	3	2	1
The most important consideration for planning my boating trips is running challenging whitewater.	5	4	(3)	2	1
The most important consideration for planning my boating trips is boating on a weekend, regardless of flow.	(5)	4	3	2	1

Difficulty – generally accepted definitions

Class I: easy but fast moving water, small waves, passages clear, no serious obstacles, perfect for all ages and abilities. Skill Level: very basic.

Class II: rough and fast moving water; rocks, small ledges, and other obstacles which might require some maneuvering. Skill level: basic paddling skill.

Class III: swift whitewater, small to medium waves, rocks, eddies, rapids with narrow but clear passages, requires significant maneuvering to navigate successfully but the consequences of error are generally minimal. Skill level: experienced guide recommended.

Class IV: challenging whitewater with powerful waves, long rapids, difficult to avoid rocks, boiling eddies; powerful and precise maneuvering required. Skill level: experienced guide required.

Class V: extreme whitewater with large waves, large volume, large rocks difficult to avoid and potentially deadly hazards, large drops often over 10 feet which require precise maneuvering. Skill level: experienced guide and experienced crew required.

BOATER BACKGROUND INFORMATION

Please complete the following:

Name:	Jake Ring
Affiliation:	Boater liason
Zip Code:	49938
Email:	ringjaked@gmail.com
Preferred Craft:	raft

1. What is your current boating skill level (check one):

   Intermediate ☐ Advanced ☐ Expert ☒ Elite ☐

2. How many years have you been boating at this level: 6

3. In an average year, how many days do you boat: 50

4. Have you ever participated in a hydro relicensing whitewater boating study before: yes
   If yes, when (month/year or year) and for which river(s)/hydro project(s):
   2021 Montreal Canyon

5. Have you boated this Reach (Gile Dam to Kimball Town Park) before today: No
   If yes, how many times or how often: _____
   If yes, what were the flows: _____
   If yes, what type of craft(s) did you use: _____
   If no, why (challenge level, run length, did not know about it, other):
   Usually somewhere else, hard to catch up.

6. How far did you travel today to get to this location (miles): 10

Please respond to each statement about your overall river-running preferences:

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I prefer running rivers with fast water and small to no rapids (Class I/II/III).	5	4	3	2	(1)
I prefer running rivers with challenging rapids (Class IV).	(5)	4	3	2	1
I often boat short river segments (under 2 miles) to experience a unique and interesting place.	(5)	4	3	2	1
I often boat short river segments (under 2 miles) to take advantage of whitewater play areas.	(5)	4	3	2	1
I often boat short river segments (under 2 miles) to run challenging rapids.	(5)	4	3	2	1
Good whitewater play areas are more important than challenging rapids.	5	4	(3)	2	1
I am willing to tolerate difficult put-ins, portages, and take-outs to run interesting reaches of whitewater.	(5)	4	3	2	1
The most important consideration for planning my boating trips is running challenging whitewater.	5	(4)	3	2	1
The most important consideration for planning my boating trips is boating on a weekend, regardless of flow.	5	4	(3)	2	1

Difficulty – generally accepted definitions

Class I: easy but fast moving water, small waves, passages clear, no serious obstacles, perfect for all ages and abilities. Skill Level: very basic.

Class II: rough and fast moving water; rocks, small ledges, and other obstacles which might require some maneuvering. Skill level: basic paddling skill.

Class III: swift whitewater, small to medium waves, rocks, eddies, rapids with narrow but clear passages, requires significant maneuvering to navigate successfully but the consequences of error are generally minimal. Skill level: experienced guide recommended.

Class IV: challenging whitewater with powerful waves, long rapids, difficult to avoid rocks, boiling eddies; powerful and precise maneuvering required. Skill level: experienced guide required.

Class V: extreme whitewater with large waves, large volume, large rocks difficult to avoid and potentially deadly hazards, large drops often over 10 feet which require precise maneuvering. Skill level: experienced guide and experienced crew required.

BOATER BACKGROUND INFORMATION

Please complete the following:

Name:	Brian Robin
Affiliation:	RapidRiders
Zip Code:	55372
Email:	snwbdr94@yahoo.com
Preferred Craft:	Whitewater Kayak

1. What is your current boating skill level (check one):

   Intermediate ☐ Advanced ☐ Expert ☑ Elite ☐

2. How many years have you been boating at this level: 8

3. In an average year, how many days do you boat: 60

4. Have you ever participated in a hydro relicensing whitewater boating study before: no
   If yes, when (month/year or year) and for which river(s)/hydro project(s):

5. Have you boated this Reach (Gile Dam to Kimball Town Park) before today: Yes
   If yes, how many times or how often: 1 or 2
   If yes, what were the flows: unsure
   If yes, what type of craft(s) did you use: Kayak - creeker
   If no, why (challenge level, run length, did not know about it, other):

6. How far did you travel today to get to this location (miles): From Prior Lake, MN (4.5 hrs)

Please respond to each statement about your overall river-running preferences:

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I prefer running rivers with fast water and small to no rapids (Class I/II/III).	5	(4)	3	2	1
I prefer running rivers with challenging rapids (Class IV).	(5)	4	3	2	1
I often boat short river segments (under 2 miles) to experience a unique and interesting place.	5	(4)	3	2	1
I often boat short river segments (under 2 miles) to take advantage of whitewater play areas.	5	(4)	3	2	1
I often boat short river segments (under 2 miles) to run challenging rapids.	(5)	4	3	2	1
Good whitewater play areas are more important than challenging rapids.	5	(4)	3	2	1
I am willing to tolerate difficult put-ins, portages, and take-outs to run interesting reaches of whitewater.	(5)	4	3	2	1
The most important consideration for planning my boating trips is running challenging whitewater.	(5)	4	3	2	1
The most important consideration for planning my boating trips is boating on a weekend, regardless of flow.	5	4	3	2	(1)

Difficulty – generally accepted definitions

Class I: easy but fast moving water, small waves, passages clear, no serious obstacles, perfect for all ages and abilities. Skill Level: very basic.

Class II: rough and fast moving water; rocks, small ledges, and other obstacles which might require some maneuvering. Skill level: basic paddling skill.

Class III: swift whitewater, small to medium waves, rocks, eddies, rapids with narrow but clear passages, requires significant maneuvering to navigate successfully but the consequences of error are generally minimal. Skill level: experienced guide recommended.

Class IV: challenging whitewater with powerful waves, long rapids, difficult to avoid rocks, boiling eddies; powerful and precise maneuvering required. Skill level: experienced guide required.

Class V: extreme whitewater with large waves, large volume, large rocks difficult to avoid and potentially deadly hazards, large drops often over 10 feet which require precise maneuvering. Skill level: experienced guide and experienced crew required.

BOATER BACKGROUND INFORMATION

Please complete the following:

Name:	Nathan Spindler
Affiliation:	Rapids Riders
Zip Code:	54703
Email:	spindler26@gmail.com
Preferred Craft:	Kayak

1. What is your current boating skill level (check one):

   Intermediate [X] Advanced [ ] Expert [ ] Elite [ ]

2. How many years have you been boating at this level: 2

3. In an average year, how many days do you boat: 50+

4. Have you ever participated in a hydro relicensing whitewater boating study before: NO
   If yes, when (month/year or year) and for which river(s)/hydro project(s):

5. Have you boated this Reach (Gile Dam to Kimball Town Park) before today: NO
   If yes, how many times or how often:
   If yes, what were the flows:
   If yes, what type of craft(s) did you use:
   If no, why (challenge level, run length, did not know about it, other):

6. How far did you travel today to get to this location (miles): 150 miles

Please respond to each statement about your overall river-running preferences:

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I prefer running rivers with fast water and small to no rapids (Class I/II/III).	5	4	3	(2)	1
I prefer running rivers with challenging rapids (Class IV).	(5)	4	3	2	1
I often boat short river segments (under 2 miles) to experience a unique and interesting place.	(5)	4	3	2	1
I often boat short river segments (under 2 miles) to take advantage of whitewater play areas.	(5)	4	3	2	1
I often boat short river segments (under 2 miles) to run challenging rapids.	(5)	4	3	2	1
Good whitewater play areas are more important than challenging rapids.	5	(4)	3	2	1
I am willing to tolerate difficult put-ins, portages, and take-outs to run interesting reaches of whitewater.	(5)	4	3	2	1
The most important consideration for planning my boating trips is running challenging whitewater.	5	4	(3)	2	1
The most important consideration for planning my boating trips is boating on a weekend, regardless of flow.	5	(4)	3	2	1

Difficulty – generally accepted definitions

Class I: easy but fast moving water, small waves, passages clear, no serious obstacles, perfect for all ages and abilities. Skill Level: very basic.

Class II: rough and fast moving water; rocks, small ledges, and other obstacles which might require some maneuvering. Skill level: basic paddling skill.

Class III: swift whitewater, small to medium waves, rocks, eddies, rapids with narrow but clear passages, requires significant maneuvering to navigate successfully but the consequences of error are generally minimal. Skill level: experienced guide recommended.

Class IV: challenging whitewater with powerful waves, long rapids, difficult to avoid rocks, boiling eddies; powerful and precise maneuvering required. Skill level: experienced guide required.

Class V: extreme whitewater with large waves, large volume, large rocks difficult to avoid and potentially deadly hazards, large drops often over 10 feet which require precise maneuvering. Skill level: experienced guide and experienced crew required.

BOATER BACKGROUND INFORMATION

Please complete the following:

Name:	Kayla Sturgeon
Affiliation:	Rapids Riders
Zip Code:	55444
Email:	kjoachim17@gmail.com
Preferred Craft:	Kayak

1. What is your current boating skill level (check one):

   Intermediate ☐ Advanced ☒ Expert ☐ Elite ☐

2. How many years have you been boating at this level: 4

3. In an average year, how many days do you boat: 40-50

4. Have you ever participated in a hydro relicensing whitewater boating study before: No
   If yes, when (month/year or year) and for which river(s)/hydro project(s):

5. Have you boated this Reach (Gile Dam to Kimball Town Park) before today: No
   If yes, how many times or how often:
   If yes, what were the flows:
   If yes, what type of craft(s) did you use:
   If no, why (challenge level, run length, did not know about it, other):
   When overflow from dam, have other closer options we have boated to date. No known dam releases (before today)

6. How far did you travel today to get to this location (miles): Brooklyn Park, MN

Please respond to each statement about your overall river-running preferences:

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I prefer running rivers with fast water and small to no rapids (Class I/II/III).	5	4	3	2	1
I prefer running rivers with challenging rapids (Class IV).	5	4	3	2	1
I often boat short river segments (under 2 miles) to experience a unique and interesting place.	5	4	3	2	1
I often boat short river segments (under 2 miles) to take advantage of whitewater play areas.	5	4	3	2	1
I often boat short river segments (under 2 miles) to run challenging rapids.	5	4	3	2	1
Good whitewater play areas are more important than challenging rapids.	5	4	3	2	1
I am willing to tolerate difficult put-ins, portages, and take-outs to run interesting reaches of whitewater.	5	4	3	2	1
The most important consideration for planning my boating trips is running challenging whitewater.	5	4	3	2	1
The most important consideration for planning my boating trips is boating on a weekend, regardless of flow.	5	4	3	2	1

Difficulty – generally accepted definitions

Class I: easy but fast moving water, small waves, passages clear, no serious obstacles, perfect for all ages and abilities. Skill Level: very basic.

Class II: rough and fast moving water; rocks, small ledges, and other obstacles which might require some maneuvering. Skill level: basic paddling skill.

Class III: swift whitewater, small to medium waves, rocks, eddies, rapids with narrow but clear passages, requires significant maneuvering to navigate successfully but the consequences of error are generally minimal. Skill level: experienced guide recommended.

Class IV: challenging whitewater with powerful waves, long rapids, difficult to avoid rocks, boiling eddies; powerful and precise maneuvering required. Skill level: experienced guide required.

Class V: extreme whitewater with large waves, large volume, large rocks difficult to avoid and potentially deadly hazards, large drops often over 10 feet which require precise maneuvering. Skill level: experienced guide and experienced crew required.

BOATER BACKGROUND INFORMATION

Please complete the following:

Name:	Matt Stinson
Affiliation:	Rapids Riders.org
Zip Code:	55429
Email:	Xcommgg@Gmail.com
Preferred Craft:	Kayak

1. What is your current boating skill level (check one):

   Intermediate ☐ Advanced ☑ Expert ☐ Elite ☐

2. How many years have you been boating at this level: 4

3. In an average year, how many days do you boat: 40-50

4. Have you ever participated in a hydro relicensing whitewater boating study before: No
   If yes, when (month/year or year) and for which river(s)/hydro project(s):

5. Have you boated this Reach (Gile Dam to Kimball Town Park) before today: No
   If yes, how many times or how often:
   If yes, what were the flows:
   If yes, what type of craft(s) did you use:
   If no, why (challenge level, run length, did not know about it, other):
   No options that I was aware of before this

6. How far did you travel today to get to this location (miles): Minneapolis

Please respond to each statement about your overall river-running preferences:

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I prefer running rivers with fast water and small to no rapids (Class I/II/III).	5	4	3	(2)	1
I prefer running rivers with challenging rapids (Class IV).	5	(4)	3	2	1
I often boat short river segments (under 2 miles) to experience a unique and interesting place.	5	4	(3)	2	1
I often boat short river segments (under 2 miles) to take advantage of whitewater play areas.	(5)	4	3	2	1
I often boat short river segments (under 2 miles) to run challenging rapids.	(5)	4	3	2	1
Good whitewater play areas are more important than challenging rapids.	5	4	(3)	2	1
I am willing to tolerate difficult put-ins, portages, and take-outs to run interesting reaches of whitewater.	(5)	4	3	2	1
The most important consideration for planning my boating trips is running challenging whitewater.	(5)	4	3	2	1
The most important consideration for planning my boating trips is boating on a weekend, regardless of flow.	(5)	4	3	2	1

Difficulty – generally accepted definitions

Class I: easy but fast moving water, small waves, passages clear, no serious obstacles, perfect for all ages and abilities. Skill Level: very basic.

Class II: rough and fast moving water; rocks, small ledges, and other obstacles which might require some maneuvering. Skill level: basic paddling skill.

Class III: swift whitewater, small to medium waves, rocks, eddies, rapids with narrow but clear passages, requires significant maneuvering to navigate successfully but the consequences of error are generally minimal. Skill level: experienced guide recommended.

Class IV: challenging whitewater with powerful waves, long rapids, difficult to avoid rocks, boiling eddies; powerful and precise maneuvering required. Skill level: experienced guide required.

Class V: extreme whitewater with large waves, large volume, large rocks difficult to avoid and potentially deadly hazards, large drops often over 10 feet which require precise maneuvering. Skill level: experienced guide and experienced crew required.

BOATER BACKGROUND INFORMATION

Please complete the following:

Name:	TERRY WARD
Affiliation:	
Zip Code:	63144
Email:	twara1393@yahoo.com
Preferred Craft:	Kayak

1. What is your current boating skill level (check one):

   Intermediate ☐ Advanced ☑ Expert ☐ Elite ☐

2. How many years have you been boating at this level: 7

3. In an average year, how many days do you boat: 60

4. Have you ever participated in a hydro relicensing whitewater boating study before: NO
   If yes, when (month/year or year) and for which river(s)/hydro project(s):

5. Have you boated this Reach (Gile Dam to Kimball Town Park) before today: NO
   If yes, how many times or how often:
   If yes, what were the flows:
   If yes, what type of craft(s) did you use:
   If no, why (challenge level, run length, did not know about it, other):
   DID NOT KNOW, JUST MOVED TO AREA FOR SUMMER

6. How far did you travel today to get to this location (miles): EAU CLAIRE

Please respond to each statement about your overall river-running preferences:

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I prefer running rivers with fast water and small to no rapids (Class I/II/III).	5	4	3	(2)	1
I prefer running rivers with challenging rapids (Class IV).	(5)	4	3	2	1
I often boat short river segments (under 2 miles) to experience a unique and interesting place.	5	(4)	3	2	1
I often boat short river segments (under 2 miles) to take advantage of whitewater play areas.	5	(4)	3	2	1
I often boat short river segments (under 2 miles) to run challenging rapids.	5	(4)	3	2	1
Good whitewater play areas are more important than challenging rapids.	5	4	(3)	2	1
I am willing to tolerate difficult put-ins, portages, and take-outs to run interesting reaches of whitewater.	(5)	4	3	2	1
The most important consideration for planning my boating trips is running challenging whitewater.	5	(4)	3	2	1
The most important consideration for planning my boating trips is boating on a weekend, regardless of flow.	5	(4)	3	2	1

Difficulty – generally accepted definitions

Class I: easy but fast moving water, small waves, passages clear, no serious obstacles, perfect for all ages and abilities. Skill Level: very basic.

Class II: rough and fast moving water; rocks, small ledges, and other obstacles which might require some maneuvering. Skill level: basic paddling skill.

Class III: swift whitewater, small to medium waves, rocks, eddies, rapids with narrow but clear passages, requires significant maneuvering to navigate successfully but the consequences of error are generally minimal. Skill level: experienced guide recommended.

Class IV: challenging whitewater with powerful waves, long rapids, difficult to avoid rocks, boiling eddies; powerful and precise maneuvering required. Skill level: experienced guide required.

Class V: extreme whitewater with large waves, large volume, large rocks difficult to avoid and potentially deadly hazards, large drops often over 10 feet which require precise maneuvering. Skill level: experienced guide and experienced crew required.

Appendix O **Level 3 Assessment – Whitewater Study Evaluation Forms**
Reach 1 – Gile Dam to South Drive Bridge
Reach 2 – South Drive Bridge to Center Drive Bridge
Reach 3 – Center Drive Bridge to Kimball Town Park
Overall Experience - Gile Dam to Kimball Town Park

BOATER NAME: _____

Whitewater Boater Run Evaluation Form
Reach 1 – Gile Dam to South Drive Bridge for Run # _____

Date of run: _____

Target flow: _____ cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: Gile Dam **Put-In Time:** _____

Take-Out Location: South Drive **Take-Out Time:** _____

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: _____

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

Much Higher ☐
Higher ☐
Optimum ☐
Lower ☐
Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	4	3	2	1
This reach is boatable at this flow.	5	4	3	2	1
This reach has nice water features (waves, holes, drops).	5	4	3	2	1
This reach has good play spots.	5	4	3	2	1
This reach offers good overall whitewater challenge	5	4	3	2	1
The portages on this Reach are acceptable/usable.	5	4	3	2	1
This is a safe run.	5	4	3	2	1
This run is a good length.	5	4	3	2	1
This is an aesthetically pleasing run.	5	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.		
I was *stopped* after hitting rocks or other obstacles.		
I had to *get out* to drag or pull my boat off rocks or other obstacles.		
I had to *portage* around unrunnable rapids, log jams, or other obstacles.		

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

Gile Flowage Storage Reservoir Project
FERC Project No. 15055

West Fork of the Montreal River
Iron County, Wisconsin

Whitewater Recreation Flow Study
West Branch of the Montreal River
Class IV Whitewater Boating Reach

Reach 1: Gile Dam to South Drive Bridge (2.07 miles)

South Drive

SOUTH DRIVE BRIDGE
(Reach 1 - End)

Bridge (trail)

Quebec Avenue

Ontario Street

Plant Street

Bridge (trail)

STH 77 Bridge

Bridge (trail)

Ohio Avenue

Montreal Street

Michigan Avenue

Kokogan Street

Nimikon Avenue

Oshkosh Avenue

Park Street

GILE DAM
(Reach 1 - Start)

77

1440 1460 1480 1500 1520 1540 1560 1580 1600 1620

N

0 330 660 990 1,320
Feet

0 0.25
Miles

Document Path: X:\24\00\0156358.01\TECH\Gile\Study Information\Study Protocol\Whitewater Flow\Gile Whitewater Study Proposal Info\Gile_Whitewater_Study_Maps\Gile\WhitewaterStudy_Reach 1_ClassIVReach_Level 1_2_3.mxd

BOATER NAME: _____

Whitewater Boater Run Evaluation Form
Reach 2 – South Drive Bridge to Center Drive Bridge for Run # _____

Date of run: _____

Target flow: _____ cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** _____

Take-Out Location: Center Drive **Take-Out Time:** _____

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: _____

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

Much Higher ☐
Higher ☐
Optimum ☐
Lower ☐
Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	4	3	2	1
This reach is boatable at this flow.	5	4	3	2	1
This reach has nice water features (waves, holes, drops).	5	4	3	2	1
This reach has good play spots.	5	4	3	2	1
This reach offers good overall whitewater challenge	5	4	3	2	1
The portages on this Reach are acceptable/usable.	5	4	3	2	1
This is a safe run.	5	4	3	2	1
This run is a good length.	5	4	3	2	1
This is an aesthetically pleasing run.	5	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.		
I was *stopped* after hitting rocks or other obstacles.		
I had to *get out* to drag or pull my boat off rocks or other obstacles.		
I had to *portage* around unrunnable rapids, log jams, or other obstacles.		

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

Gile Flowage Storage Reservoir Project
FERC Project No. 15055

West Fork of the Montreal River
Iron County, Wisconsin

Whitewater Recreation Flow Study
West Branch of the Montreal River
Class IV Whitewater Boating Reach

Reach 2: South Drive Bridge to Center Drive Bridge (2.62 miles)

CENTER DRIVE BRIDGE
(Reach 2 - End)

Park Rd

Center Drive

Bridge (Iron Horse Trail)

W Rangeview Drive

Iron Horse Trail

N Park Road

SOUTH DRIVE BRIDGE
(Reach 1 - End)

South Drive

N

0 330 660 990 1,320
Feet

0 0.3
Miles

Document Path: X:\24\00\00156358.01\TECH\Gis\Study Information\Study Protocol\Whitewater Flow\Gile Whitewater Study Proposal Info\Gile_Whitewater_Study_Maps\GileWhitewaterStudy_Reach 2_CasaV\Reach_Level 1_2_3.mxd

BOATER NAME: _____

Whitewater Boater Run Evaluation Form
Reach 3 – Center Drive Bridge to Kimball Town Park for Run # _____

Date of run: _____

Target flow: _____ cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** _____

Take-Out Location: Center Drive **Take-Out Time:** _____

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: _____

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

Much Higher ☐
Higher ☐
Optimum ☐
Lower ☐
Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	4	3	2	1
This reach is boatable at this flow.	5	4	3	2	1
This reach has nice water features (waves, holes, drops).	5	4	3	2	1
This reach has good play spots.	5	4	3	2	1
This reach offers good overall whitewater challenge	5	4	3	2	1
The portages on this Reach are acceptable/usable.	5	4	3	2	1
This is a safe run.	5	4	3	2	1
This run is a good length.	5	4	3	2	1
This is an aesthetically pleasing run.	5	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.		
I was *stopped* after hitting rocks or other obstacles.		
I had to *get out* to drag or pull my boat off rocks or other obstacles.		
I had to *portage* around unrunnable rapids, log jams, or other obstacles.		

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

Gile Flowage Storage Reservoir Project
FERC Project No. 15055

West Fork of the Montreal River
Iron County, Wisconsin

Whitewater Recreation Flow Study
West Branch of the Montreal River
Class IV Whitewater Boating Reach

Reach 3: Center Drive Bridge to Kimball Town Park (1.15 miles)

USH 2 Bridge

KIMBALL TOWN PARK BRIDGE
(Reach 3 - End)

Kimball Town Park & Kimball Falls

CENTER DRIVE BRIDGE
(Reach 3 - Start)

USH 2

Town Park Drive

Center Drive

Sola Road

Kimball Drive

Park Road

N

0 330 660 990 1,320
Feet

0 0.25
Miles

Document Path: \\corp.meadhunt.com\shared\folders\emlp\240010\156358.01\TECH\Gile\Study Info\mation\Study Protocol\Whitewater Flow\04_Gile_Whitewater_Study_Levels 1 2 3\Level 3 Assessment\Study Maps\GileWhitewaterStudy_Reach 3_Class IV\Reach_Level 1_2_3.mxd

BOATER NAME: _____

Whitewater Boater Evaluation Form
Overall Experience for Entire Reach - Gile Dam to Kimball Town Park

Flow Levels: please answer the following based on your boating trips at various flows.

Statement – for entire Reach	Flow (cfs)
What flow *range* provides the optimal whitewater boating experience	
What is the highest safe flow for your skill level and preferred craft	
What is the optimal flow for a "standard" trip	
What is the optimal flow for a "high challenge" trip	
If *one flow* was released for boating, what would be your optimal flow	

Boating Experience:

Are you likely to return for future boating if your optimal flow choice was provided? (check one)

Absolutely ☐ Probably ☐ Maybe ☐ No ☐

If you would return for boating, what months would you choose to return? (check all that apply)

Apr ☐ Jun ☐ Aug ☐ Oct ☐
May ☐ July ☐ Sep ☐ Nov ☐

Would the flows provided today be suitable for beginner/novice boaters? (check one)

Absolutely ☐ Probably ☐ Maybe ☐ No ☐

If so, what flow level(s) would be appropriate for this skill level: _____ cfs

Were any of the flows provided today suitable for play boating? (check one)

Absolutely ☐ Some were ☐ Not really ☐ No ☐

If so, what flow level(s) were suitable: _____ cfs

Flow Information:

How do you prefer to receive flow information? (check all that apply)

Email notification ☐

Website information ☐

Call number with recording ☐

Other: _____

Other Whitewater Boating Opportunities:

Is there another whitewater boating opportunity in the area that is preferable to this Reach?

Yes ☐

No ☐

If yes:

- What is the name/location of the preferable opportunity: _____
- What is the difficulty class of the preferable opportunity: _____
- Is the preferable opportunity more challenging than your experience today: _____
- Does the preferable opportunity have more potential for boatability than today: _____

Hypothetical Flow Releases

Please provide an overall evaluation for the flow ranges available on this Reach based on your experiences and preferences today. Consider all flow-dependent characteristics that contribute to a high quality boating trip, such as boatability, challenge, play areas, safety, aesthetics, and length of run. If you do not feel comfortable evaluating a flow you have not boated or seen, leave that flow blank.

Would the following flow releases (cfs) create a high quality boating experience on this Reach: (circle your rating for each flow value)

Rating	400 cfs	600 cfs	800 cfs	1,000 cfs	1,100 cfs	1,300 cfs	1,500 cfs	1,700 cfs	2,000 cfs	2,500 cfs
Acceptable	5	5	5	5	5	5	5	5	5	5
Marginal	3	3	3	3	3	3	3	3	3	3
Unacceptable	1	1	1	1	1	1	1	1	1	1

Appendix P Level 3 Assessment – Completed Whitewater Study Boater Evaluation Forms for 600 cfs Flow Release, all Reaches

Note: survey responses included documentation or markings on the maps include for Reach 1, Reach 2, or Reach 3; therefore, all maps were removed from all survey responses included in this Appendix in consideration of file size limits.

600 cfs Flow Release – Reach 1 – Gile Dam to South Drive Bridge

BOATER NAME: Ben Biovkamp

Whitewater Boater Run Evaluation Form
Reach 1 – Gile Dam to South Drive Bridge for Run # 1

Date of run: 6-11-22

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: 9'
f. Other _____

Put-In Location: Gile Dam **Put-In Time:** 10:47AM.

Take-Out Location: South Drive **Take-Out Time:** 11:13

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: III+

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☑
- Optimum ☐
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	(5)	4	3	2	1
This reach is boatable at this flow.	5	(4)	3	2	1
This reach has nice water features (waves, holes, drops).	5	(4)	3	2	1
This reach has good play spots.	5	4	3	(2)	1
This reach offers good overall whitewater challenge	5	(4)	3	2	1
The portages on this Reach are acceptable/usable.	5	4	(3)	2	1
This is a safe run.	5	(4)	3	2	1
This run is a good length.	5	(4)	3	2	1
This is an aesthetically pleasing run.	5	(4)	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	5	
I was *stopped* after hitting rocks or other obstacles.	3	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	3	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Gile Falls	III	

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Yes strainer

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

BOATER NAME: JASON B

Whitewater Boater Run Evaluation Form
Reach 1 – Gile Dam to South Drive Bridge for Run # 1

Date of run: 14 June 2022

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: Gile Dam **Put-In Time:** 10:47

Take-Out Location: South Drive **Take-Out Time:** 11:38

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: III

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☐
- Optimum ☑
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	4	3	2	1
This reach is boatable at this flow.	5	4	3	2	1
This reach has nice water features (waves, holes, drops).	5	4	3	2	1
This reach has good play spots.	5	4	3	2	1
This reach offers good overall whitewater challenge	5	4	3	2	1
The portages on this Reach are acceptable/usable.	5	4	3	2	1
This is a safe run.	5	4	3	2	1
This run is a good length.	5	4	3	2	1
This is an aesthetically pleasing run.	5	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.		
I was *stopped* after hitting rocks or other obstacles.		
I had to *get out* to drag or pull my boat off rocks or other obstacles.		
I had to *portage* around unrunnable rapids, log jams, or other obstacles.		

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

BOATER NAME: BRIAN C

Whitewater Boater Run Evaluation Form
Reach 1 – Gile Dam to South Drive Bridge for Run # 1

Date of run: 6 11 22

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. (Hard shell kayak)
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: Gile Dam **Put-In Time:** 1140

Take-Out Location: South Drive **Take-Out Time:** 11:20

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, (III), IV, or V):

Class: III

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

Much Higher	☐
Higher	☒
Optimum	☐
Lower	☐
Much Lower	☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	4	3	2	1
This reach is boatable at this flow.	5	4	3	2	1
This reach has nice water features (waves, holes, drops).	5	4	3	2	1
This reach has good play spots.	5	4	3	2	1
This reach offers good overall whitewater challenge	5	4	3	2	1
The portages on this Reach are acceptable/usable.	5	4	3	2	1
This is a safe run.	5	4	3	2	1
This run is a good length.	5	4	3	2	1
This is an aesthetically pleasing run.	5	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	1	UNJUDGED LINE
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
LITTLE FALLS	III	NO

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

SWIM @ GILE FALLS
BOAT STUCK
SWIMMER GOT DOWN STREAM
ABLE TO RECOVER IN POOL
BELOW

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

GOOD WARM UP

BOATER NAME: Aaron Erwin

Whitewater Boater Run Evaluation Form
Reach 1 – Gile Dam to South Drive Bridge for Run # 1

Date of run: 6-11

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: 9.5
f. Other _____

Put-In Location: Gile Dam **Put-In Time:** 10:47

Take-Out Location: South Drive **Take-Out Time:** 11:15

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: +3

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☒
- Optimum ☐
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	(4)	3	2	1
This reach is boatable at this flow.	5	(4)	3	2	1
This reach has nice water features (waves, holes, drops).	(5)	4	3	2	1
This reach has good play spots.	5	4	(3)	2	1
This reach offers good overall whitewater challenge	5	(4)	3	2	1
The portages on this Reach are acceptable/usable.	(5)	(4)	3	2	1
This is a safe run.	(5)	4	3	2	1
This run is a good length.	5	(4)	3	2	1
This is an aesthetically pleasing run.	(5)	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	0	
I was *stopped* after hitting rocks or other obstacles.	1	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	6	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
gile Falls	3	No

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

BOATER NAME: Matthew Hansen

Whitewater Boater Run Evaluation Form
Reach 1 – Gile Dam to South Drive Bridge for Run # 1

Date of run: 6/11/22

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: Gile Dam **Put-In Time:** 10:47

Take-Out Location: South Drive **Take-Out Time:** 11:13

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: III+

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☒
- Optimum ☐
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	(5)	4	3	2	1
This reach is boatable at this flow.	(5)	4	3	2	1
This reach has nice water features (waves, holes, drops).	(5)	4	3	2	1
This reach has good play spots.	5	4	(3)	2	1
This reach offers good overall whitewater challenge	5	(4)	3	2	1
The portages on this Reach are acceptable/usable.	(5)	4	3	2	1
This is a safe run.	(5)	4	3	2	1
This run is a good length.	5	(4)	3	2	1
This is an aesthetically pleasing run.	(5)	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	1	
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
1st Sequence	N/A	No

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

BOATER NAME: Elita Hecimovich

Whitewater Boater Run Evaluation Form
Reach 1 – Gile Dam to South Drive Bridge for Run # 1

Date of run: 6-11-22

Target flow: 1050 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: 10'
f. Other _____

Put-In Location: Gile Dam **Put-In Time:** 10:47

Take-Out Location: South Drive **Take-Out Time:** 11:13

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: III

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☒
- Optimum ☐
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	(4)	3	2	1
This reach is boatable at this flow.	(5)	4	3	2	1
This reach has nice water features (waves, holes, drops).	5	4	(3)	2	1
This reach has good play spots.	5	4	3	(2)	1
This reach offers good overall whitewater challenge	5	4	3	(2)	1
The portages on this Reach are acceptable/usable.	(5)	4	3	2	1
This is a safe run.	(5)	4	3	2	1
This run is a good length.	5	4	(3)	2	1
This is an aesthetically pleasing run.	(5)	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	1	little scrapy
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

None

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

BOATER NAME: Austin Izzo

Whitewater Boater Run Evaluation Form
Reach 1 – Gile Dam to South Drive Bridge for Run # 1

Date of run: June 11

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: 18'
f. Other _____

Put-In Location: Gile Dam **Put-In Time:** 10:47

Take-Out Location: South Drive **Take-Out Time:** 11:13

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: 3

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☑
- Optimum ☐
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	(4)	3	2	1
This reach is boatable at this flow.	5	(4)	3	2	1
This reach has nice water features (waves, holes, drops).	5	(4)	3	2	1
This reach has good play spots.	5	(4)	3	2	1
This reach offers good overall whitewater challenge	5	(4)	3	2	1
The portages on this Reach are acceptable/usable.	5	(4)	3	2	1
This is a safe run.	5	(4)	3	2	1
This run is a good length.	5	(4)	3	2	1
This is an aesthetically pleasing run.	(5)	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	0	
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Level slightly low for raft	III	NO

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

BOATER NAME: Tim Kordecki

Whitewater Boater Run Evaluation Form
Reach 1 – Gile Dam to South Drive Bridge for Run # 1

Date of run: 6/11

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. (Hard shell kayak)
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: Gile Dam **Put-In Time:** 10:47

Take-Out Location: South Drive **Take-Out Time:** 11:17

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: 3

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☑
- Optimum ☐
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	4	(3)	2	1
This reach is boatable at this flow.	5	(4)	3	2	1
This reach has nice water features (waves, holes, drops).	5	(4)	3	2	1
This reach has good play spots.	5	(4)	3	2	1
This reach offers good overall whitewater challenge	(5)	4	3	2	1
The portages on this Reach are acceptable/usable.	(5)	4	3	2	1
This is a safe run.	(5)	4	3	2	1
This run is a good length.	5	4	(3)	2	1
This is an aesthetically pleasing run.	5	4	(3)	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	1	second drop after dam
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Right side of the second drop	IV	NO

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

NO

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

BOATER NAME: Brian Krueger

Whitewater Boater Run Evaluation Form
Reach 1 – Gile Dam to South Drive Bridge for Run # 1

Date of run: 6/11/22

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: Gile Dam **Put-In Time:** 10:41

Take-Out Location: South Drive **Take-Out Time:** 11:13

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: one 3+ drop

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☐
- Optimum ☒
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	(4)	3	2	1
This reach is boatable at this flow.	(5)	4	3	2	1
This reach has nice water features (waves, holes, drops).	5	(4)	3	2	1
This reach has good play spots.	5	4	(3)	2	(1)
This reach offers good overall whitewater challenge	5	4	(3)	2	1
The portages on this Reach are acceptable/usable.	5	4	(3)	2	1
This is a safe run.	5	(4)	3	2	1
This run is a good length.	5	(4)	3	2	1
This is an aesthetically pleasing run.	5	(4)	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	(0)	
I was *stopped* after hitting rocks or other obstacles.		
I had to *get out* to drag or pull my boat off rocks or other obstacles.		
I had to *portage* around unrunnable rapids, log jams, or other obstacles.		

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
gile falls was fun	IV	NO

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

lots of flat water for 1 drop. but the water had a nice flow.

BOATER NAME: Tony Locken

Whitewater Boater Run Evaluation Form
Reach 1 – Gile Dam to South Drive Bridge for Run # 1

Date of run: 11JUN22

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: Gile Dam **Put-In Time:** 10:47AM

Take-Out Location: South Drive **Take-Out Time:** 11:14

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: III

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☒
- Optimum ☐
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	(4)	3	2	1
This reach is boatable at this flow.	(5)	4	3	2	1
This reach has nice water features (waves, holes, drops).	5	(4)	3	2	1
This reach has good play spots.	5	4	3	(2)	1
This reach offers good overall whitewater challenge	5	4	(3)	2	1
The portages on this Reach are acceptable/usable.	5	(4)	3	2	1
This is a safe run.	(5)	4	3	2	1
This run is a good length.	5	4	3	(2)	1
This is an aesthetically pleasing run.	(5)	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	30	
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	3	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Gile falls	IV	NO
to road	II	NO

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

N/A

BOATER NAME: Hunter R

Whitewater Boater Run Evaluation Form
Reach 1 – Gile Dam to South Drive Bridge for Run # 1

Date of run: 6/11

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. (Hard shell kayak)
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: Gile Dam **Put-In Time:** 10:47

Take-Out Location: South Drive **Take-Out Time:** 11:13

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: 3

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☒
- Optimum ☐
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	(4)	3	2	1
This reach is boatable at this flow.	5	(4)	3	2	1
This reach has nice water features (waves, holes, drops).	5	4	(3)	2	1
This reach has good play spots.	5	4	3	2	(1)
This reach offers good overall whitewater challenge	5	(4)	3	2	1
The portages on this Reach are acceptable/usable.	5	4	(3)	2	1
This is a safe run.	5	(4)	3	2	1
This run is a good length.	5	4	(3)	2	1
This is an aesthetically pleasing run.	(5)	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	2	
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Gile Falls	III	NO

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

river banks could use clean up of brush

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

great run, [illegible]

BOATER NAME: John Ray

Whitewater Boater Run Evaluation Form
Reach 1 – Gile Dam to South Drive Bridge for Run # 1

Date of run: 6/11/22

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: 10 ft
f. Other _____

Put-In Location: Gile Dam **Put-In Time:** 10:47 AM

Take-Out Location: South Drive **Take-Out Time:** 11:13 AM

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: III

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☑ 100-200 more
- Optimum ☐
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	(5)	4	3	2	1
This reach is boatable at this flow.	(5)	4	3	2	1
This reach has nice water features (waves, holes, drops).	(5)	4	3	2	1
This reach has good play spots.	5	4	(3)	2	1
This reach offers good overall whitewater challenge	5	(4)	3	2	1
The portages on this Reach are acceptable/usable.	(5)	4	3	2	1
This is a safe run.	(5)	4	3	2	1
This run is a good length.	(5)	4	3	2	1
This is an aesthetically pleasing run.	(5)	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	0	
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below. None

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

Great section

BOATER NAME: Brandon

Whitewater Boater Run Evaluation Form
Reach 1 – Gile Dam to South Drive Bridge for Run # 1

Date of run: 6/11/22

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. (Hard shell kayak)
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: Gile Dam **Put-In Time:** ~~11~~13 10:47

Take-Out Location: South Drive **Take-Out Time:** 11:13

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: Gile Falls ~~III~~ III+ rest class II

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☒
- Higher ☐
- Optimum ☐
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	(4)	3	2	1
This reach is boatable at this flow.	5	(4)	3	2	1
This reach has nice water features (waves, holes, drops).	5	4	(3)	2	1
This reach has good play spots.	5	4	3	(2)	1
This reach offers good overall whitewater challenge	5	(4)	3	2	1
The portages on this Reach are acceptable/usable.	(5)	4	3	2	1
This is a safe run.	5	(4)	3	2	1
This run is a good length.	5	(4)	3	2	1
This is an aesthetically pleasing run.	5	(4)	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	1	Gile Falls
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Gile Falls	III+	No

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

One Swim, boater caught in Hole. Easy recovery

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

BOATER NAME: Nathan Spindler

Whitewater Boater Run Evaluation Form
Reach 1 – Gile Dam to South Drive Bridge for Run # 1

Date of run: 6/11/22

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: Gile Dam **Put-In Time:** 10:43

Take-Out Location: South Drive **Take-Out Time:** 11:13

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: IV

Enjoyment (relative to the flow of this run)
Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☒
- Optimum ☐
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	4	3	2	1
This reach is boatable at this flow.	5	4	3	2	1
This reach has nice water features (waves, holes, drops).	5	4	3	2	1
This reach has good play spots.	5	4	3	2	1
This reach offers good overall whitewater challenge	5	4	3	2	1
The portages on this Reach are acceptable/usable.	5	4	3	2	1
This is a safe run.	5	4	3	2	1
This run is a good length.	5	4	3	2	1
This is an aesthetically pleasing run.	5	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	0	
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Gile falls	IV	NO

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

BOATER NAME: Kayla Sturgeon

Whitewater Boater Run Evaluation Form
Reach 1 – Gile Dam to South Drive Bridge for Run # 1

Date of run: 6/11/21

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: Gile Dam **Put-In Time:** 10:47

Take-Out Location: South Drive **Take-Out Time:** 11:13

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: Iclass IV, rest II @ beg

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☒
- Optimum ☐
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	4	3	2	1
This reach is boatable at this flow.	5	4	3	2	1
This reach has nice water features (waves, holes, drops).	5	4	3	2	1
This reach has good play spots.	5	4	3	2	1
This reach offers good overall whitewater challenge	5	4	3	2	1
The portages on this Reach are acceptable/usable.	5	4	3	2	1
This is a safe run.	5	4	3	2	1
This run is a good length.	5	4	3	2	1
This is an aesthetically pleasing run.	5	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	2	
I was *stopped* after hitting rocks or other obstacles.	1	At main rapid was stopped in hole & paddled out
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Gile Falls	IV	N could

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
N/A	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

~~I~~ Observed a swim
Hole @ Giles Fall

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

BOATER NAME: Matt Stanglo

Whitewater Boater Run Evaluation Form
Reach 1 – Gile Dam to South Drive Bridge for Run # 1

Date of run: 6/4/21

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. (Hard shell kayak)
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: Gile Dam **Put-In Time:** 10:40

Take-Out Location: South Drive **Take-Out Time:** 11:14

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: 3

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☐
- Optimum ☑
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	4	3	2	1
This reach is boatable at this flow.	5	4	3	2	1
This reach has nice water features (waves, holes, drops).	5	4	3	2	1
This reach has good play spots.	5	4	3	2	1
This reach offers good overall whitewater challenge	5	4	3	2	1
The portages on this Reach are acceptable/usable.	5	4	3	2	1
This is a safe run.	5	4	3	2	1
This run is a good length.	5	4	3	2	1
This is an aesthetically pleasing run.	5	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	1	
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Gile Falls	3	NO

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Only small Trees Not low Mgh

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

BOATER NAME: TERRY WARD

Whitewater Boater Run Evaluation Form
Reach 1 – Gile Dam to South Drive Bridge for Run # 1

Date of run: 6/11/22

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: Gile Dam **Put-In Time:** 1047

Take-Out Location: South Drive **Take-Out Time:** 11:15

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: 3

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☑ PRETTY GOOD FLOW
- Optimum ☐
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	4	3	2	1
This reach is boatable at this flow.	5	4	3	2	1
This reach has nice water features (waves, holes, drops).	5	4	3	2	1
This reach has good play spots.	5	4	3	2	1
This reach offers good overall whitewater challenge	5	4	3	2	1
The portages on this Reach are acceptable/usable.	5	4	3	2	1
This is a safe run.	5	4	3	2	1
This run is a good length.	5	4	3	2	1
This is an aesthetically pleasing run.	5	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	1	
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
GILE FLOW	V-	NO

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

600 cfs Flow Release – Reach 2 – South Drive Bridge to Center Drive Bridge

BOATER NAME: Ben Bjorkman

Whitewater Boater Run Evaluation Form
Reach 2 – South Drive Bridge to Center Drive Bridge for Run # 1

Date of run: 6-11-22

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: 9'
f. Other _____

Put-In Location: South Drive **Put-In Time:** 11:20

Take-Out Location: Center Drive **Take-Out Time:** 12:20

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: 4

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☑
- Optimum ☐
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	(4)	3	2	1
This reach is boatable at this flow.	(5)	4	3	2	1
This reach has nice water features (waves, holes, drops).	(5)	4	3	2	1
This reach has good play spots.	(5)	4	3	2	1
This reach offers good overall whitewater challenge	(5)	4	3	2	1
The portages on this Reach are acceptable/usable.	5	(4)	3	2	1
This is a safe run.	(5)	4	3	2	1
This run is a good length.	(5)	4	3	2	1
This is an aesthetically pleasing run.	5	(4)	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	1	
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Rock cup	IV	
30 seconds of rapids	III	

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

NO

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

BOATER NAME: Jason Blankenheim

Whitewater Boater Run Evaluation Form
Reach 2 – South Drive Bridge to Center Drive Bridge for Run # 1

Date of run: 6-11-22

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** 11:20

Take-Out Location: Center Drive **Take-Out Time:** 12:20

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: 3-4

Enjoyment (relative to the flow of this run)
Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☐
- Optimum ☑
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	4	(3)	2	1
This reach is boatable at this flow.	5	(4)	3	2	1
This reach has nice water features (waves, holes, drops).	5	(4)	3	2	1
This reach has good play spots.	5	4	(3)	2	1
This reach offers good overall whitewater challenge	5	(4)	3	2	1
The portages on this Reach are acceptable/usable.	5	4	(3)	2	1
This is a safe run.	5	4	(3)	2	1
This run is a good length.	5	4	(3)	2	1
This is an aesthetically pleasing run.	(5)	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	10	
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Before Kimball Falls	3+	No
Kimball Falls	3+	No

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

No

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

BOATER NAME: BRIAN C

Whitewater Boater Run Evaluation Form
Reach 2 – South Drive Bridge to Center Drive Bridge for Run # 1

Date of run: 6.11.22

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** 11:25

Take-Out Location: Center Drive **Take-Out Time:** 12:25

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: 4

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☑
- Optimum ☐
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	(4)	3	2	1
This reach is boatable at this flow.	(5)	4	3	2	1
This reach has nice water features (waves, holes, drops).	(5)	4	3	2	1
This reach has good play spots.	(5)	4	3	2	1
This reach offers good overall whitewater challenge	(5)	4	3	2	1
The portages on this Reach are acceptable/usable.	5	(4)	3	2	1
This is a safe run.	5	(4)	3	2	1
This run is a good length.	5	(4)	3	2	1
This is an aesthetically pleasing run.	(5)	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	2	LITTLE SHALLOW IN WIDE SPOT
I was *stopped* after hitting rocks or other obstacles.	1	FUNKY LINE CHOICE
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

FUN RUN
FAST PACED
* IMPORTANT TO KEEP EYES
ON CURRENT :)

BOATER NAME: Aaron

Whitewater Boater Run Evaluation Form
Reach 2 – South Drive Bridge to Center Drive Bridge for Run # 1

Date of run: 6-11

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: 9.5 ft
f. Other _____

Put-In Location: South Drive **Put-In Time:** 11:15

Take-Out Location: Center Drive **Take-Out Time:** 12:20

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: 4 ish

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☒
- Optimum ☐
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	(4)	3	2	1
This reach is boatable at this flow.	(5)	4	3	2	1
This reach has nice water features (waves, holes, drops).	(5)	4	3	2	1
This reach has good play spots.	5	(4)	3	2	1
This reach offers good overall whitewater challenge	(5)	4	3	2	1
The portages on this Reach are acceptable/usable.	5	4	(3)	2	1
This is a safe run.	(5)	4	3	2	1
This run is a good length.	(5)	4	3	2	1
This is an aesthetically pleasing run.	(5)	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	0	
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Rock Cutt	4	NO

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
No	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

BOATER NAME: Matt Hansen

Whitewater Boater Run Evaluation Form
Reach 2 – South Drive Bridge to Center Drive Bridge for Run # 1

Date of run: 7/11/[illegible]

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** 11:20

Take-Out Location: Center Drive **Take-Out Time:** 12:20

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: III+

Enjoyment (relative to the flow of this run)
Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☒
- Optimum ☐
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	4	3	2	1
This reach is boatable at this flow.	5	4	3	2	1
This reach has nice water features (waves, holes, drops).	5	4	3	2	1
This reach has good play spots.	5	4	3	2	1
This reach offers good overall whitewater challenge	5	4	3	2	1
The portages on this Reach are acceptable/usable.	5	4	3	2	1
This is a safe run.	5	4	3	2	1
This run is a good length.	5	4	3	2	1
This is an aesthetically pleasing run.	5	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	0	
I was *stopped* after hitting rocks or other obstacles.		
I had to *get out* to drag or pull my boat off rocks or other obstacles.		
I had to *portage* around unrunnable rapids, log jams, or other obstacles.		

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

None

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

Add a run that is different than surrounding rivers.

BOATER NAME: Elita Heermorich

Whitewater Boater Run Evaluation Form
Reach 2 – South Drive Bridge to Center Drive Bridge for Run # 1

Date of run: 6-11-02

Target flow: 650 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: 10'
f. Other _____

Put-In Location: South Drive **Put-In Time:** 12:20

Take-Out Location: Center Drive **Take-Out Time:** 12:20

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: 3

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☒
- Optimum ☐
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	4	3	2	1
This reach is boatable at this flow.	5	4	3	2	1
This reach has nice water features (waves, holes, drops).	5	4	3	2	1
This reach has good play spots.	5	4	3	2	1
This reach offers good overall whitewater challenge	5	4	3	2	1
The portages on this Reach are acceptable/usable.	5	4	3	2	1
This is a safe run.	5	4	3	2	1
This run is a good length.	5	4	3	2	1
This is an aesthetically pleasing run.	5	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.		
I was *stopped* after hitting rocks or other obstacles.		
I had to *get out* to drag or pull my boat off rocks or other obstacles.		
I had to *portage* around unrunnable rapids, log jams, or other obstacles.		

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

BOATER NAME: Austin Izzo

Whitewater Boater Run Evaluation Form
Reach 2 – South Drive Bridge to Center Drive Bridge for Run # 1

Date of run: 6/11/22

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** 1120

Take-Out Location: Center Drive **Take-Out Time:** 1220

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: III - IV

Enjoyment (relative to the flow of this run)
Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☑ 100 CFS
- Optimum ☐
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	4	3	2	1
This reach is boatable at this flow.	5	4	3	2	1
This reach has nice water features (waves, holes, drops).	5	4	3	2	1
This reach has good play spots.	5	4	3	2	1
This reach offers good overall whitewater challenge	5	4	3	2	1
The portages on this Reach are acceptable/usable.	5	4	3	2	1
This is a safe run.	5	4	3	2	1
This run is a good length.	5	4	3	2	1
This is an aesthetically pleasing run.	5	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	1	
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

BOATER NAME: Jim Kordecki

Whitewater Boater Run Evaluation Form
Reach 2 – South Drive Bridge to Center Drive Bridge for Run # 1

Date of run: 6/11

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** _____

Take-Out Location: Center Drive **Take-Out Time:** _____

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: III – IV

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☑
- Optimum ☐
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	(5)	4	3	2	1
This reach is boatable at this flow.	(5)	4	3	2	1
This reach has nice water features (waves, holes, drops).	(5)	4	3	2	1
This reach has good play spots.	5	4	(3)	2	1
This reach offers good overall whitewater challenge	(5)	4	3	2	1
The portages on this Reach are acceptable/usable.	(5)	4	3	2	1
This is a safe run.	(5)	4	3	2	1
This run is a good length.	(5)	4	3	2	1
This is an aesthetically pleasing run.	(5)	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	8	on purpose
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Rock Cut Falls	III – IV	NO
~~Falls~~	~~III~~	~~NO~~

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

The run out from Rock cut Falls has some good "boof" rocks in it.

BOATER NAME: Brian Krueger

Whitewater Boater Run Evaluation Form
Reach 2 – South Drive Bridge to Center Drive Bridge for Run # 1

Date of run: 6/11/22

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** 11:20

Take-Out Location: Center Drive **Take-Out Time:** 12:20

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: 3-4

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☐
- Optimum ☒
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	4	3	2	1
This reach is boatable at this flow.	5	4	3	2	1
This reach has nice water features (waves, holes, drops).	5	4	3	2	1
This reach has good play spots.	5	4	3	2	1
This reach offers good overall whitewater challenge	5	4	3	2	1
The portages on this Reach are acceptable/usable.	5	4	3	2	1
This is a safe run.	5	4	3	2	1
This run is a good length.	5	4	3	2	1
This is an aesthetically pleasing run.	5	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	3	
I was *stopped* after hitting rocks or other obstacles.		
I had to *get out* to drag or pull my boat off rocks or other obstacles.		
I had to *portage* around unrunnable rapids, log jams, or other obstacles.		

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
the gorge section is great!	IV	NO

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

great run @ 600 cfs. excited to see 1000 cfs.

BOATER NAME: Tony Locken

Whitewater Boater Run Evaluation Form
Reach 2 – South Drive Bridge to Center Drive Bridge for Run # 1

Date of run: 11 JUN 22

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** 10:20

Take-Out Location: Center Drive **Take-Out Time:** 17:26

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: III

Enjoyment (relative to the flow of this run)
Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☒
- Optimum ☐
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	4	3	2	1
This reach is boatable at this flow.	5	4	3	2	1
This reach has nice water features (waves, holes, drops).	5	4	3	2	1
This reach has good play spots.	5	4	3	2	1
This reach offers good overall whitewater challenge	5	4	3	2	1
The portages on this Reach are acceptable/usable.	5	4	3	2	1
This is a safe run.	5	4	3	2	1
This run is a good length.	5	4	3	2	1
This is an aesthetically pleasing run.	5	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	20	
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	3	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	3	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Canyon	III	NO
Second falls	III	NO

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

N/A

BOATER NAME: Hunter

Whitewater Boater Run Evaluation Form
Reach 2 – South Drive Bridge to Center Drive Bridge for Run # 1

Date of run: 6/11

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** _____

Take-Out Location: Center Drive **Take-Out Time:** _____

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: 3-4

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☒
- Optimum ☐
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	4	3	2	1
This reach is boatable at this flow.	5	4	3	2	1
This reach has nice water features (waves, holes, drops).	5	4	3	2	1
This reach has good play spots.	5	4	3	2	1
This reach offers good overall whitewater challenge	5	4	3	2	1
The portages on this Reach are acceptable/usable.	5	4	3	2	1
This is a safe run.	5	4	3	2	1
This run is a good length.	5	4	3	2	1
This is an aesthetically pleasing run.	5	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	5	
I was *stopped* after hitting rocks or other obstacles.	1	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Rock Cut Falls	4	NO

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

River banks could use clean up of brush

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

Higher flow, was a bit rocky

BOATER NAME: John Ray

Whitewater Boater Run Evaluation Form
Reach 2 – South Drive Bridge to Center Drive Bridge for Run # 1

Date of run: 6/11/22

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: 10ft
f. Other _____

Put-In Location: South Drive **Put-In Time:** 11:20AM

Take-Out Location: Center Drive **Take-Out Time:** 12:20PM

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: IV

Enjoyment (relative to the flow of this run)
Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☐
- Optimum ☑
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	4	3	2	1
This reach is boatable at this flow.	5	4	3	2	1
This reach has nice water features (waves, holes, drops).	5	4	3	2	1
This reach has good play spots.	5	4	3	2	1
This reach offers good overall whitewater challenge	5	4	3	2	1
The portages on this Reach are acceptable/usable.	5	4	3	2	1
This is a safe run.	5	4	3	2	1
This run is a good length.	5	4	3	2	1
This is an aesthetically pleasing run.	5	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	0	
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)

Portages N/A

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below. N/A

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

Awesome! Scenic, challenging

BOATER NAME: _____ Brian Robin

Whitewater Boater Run Evaluation Form
Reach 2 – South Drive Bridge to Center Drive Bridge for Run # 1

Date of run: _____ Date: 6.11.22

Target flow: 600 cfs. 600 cfs

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** 1120

Take-Out Location: Center Drive **Take-Out Time:** 1220

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: III+

Enjoyment (relative to the flow of this run)
Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☒
- Optimum ☐
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	4	3	2	1
This reach is boatable at this flow.	5	4	3	2	1
This reach has nice water features (waves, holes, drops).	5	4	3	2	1
This reach has good play spots.	5	4	3	2	1
This reach offers good overall whitewater challenge	5	4	3	2	1
The portages on this Reach are acceptable/usable.	5	4	3	2	1
This is a safe run.	5	4	3	2	1
This run is a good length.	5	4	3	2	1
This is an aesthetically pleasing run.	5	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	12	Lots of rocks
I was *stopped* after hitting rocks or other obstacles.	3	Rocks slow you down
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Above Fail bridge	III +	no
Second falls	III	no

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Tree Strainers could be an issue

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

Fun Section needs more water

BOATER NAME: Nathan Spindler

Whitewater Boater Run Evaluation Form
Reach 2 – South Drive Bridge to Center Drive Bridge for Run # 1

Date of run: 6/11/22

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. (Hard shell kayak)
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** 11:20

Take-Out Location: Center Drive **Take-Out Time:** 12:20

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: IV

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☒
- Optimum ☐
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	4	3	2	1
This reach is boatable at this flow.	5	4	3	2	1
This reach has nice water features (waves, holes, drops).	5	4	3	2	1
This reach has good play spots.	5	4	3	2	1
This reach offers good overall whitewater challenge	5	4	3	2	1
The portages on this Reach are acceptable/usable.	5	4	3	2	1
This is a safe run.	5	4	3	2	1
This run is a good length.	5	4	3	2	1
This is an aesthetically pleasing run.	5	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.		lots of play rocks
I was *stopped* after hitting rocks or other obstacles.		
I had to *get out* to drag or pull my boat off rocks or other obstacles.		
I had to *portage* around unrunnable rapids, log jams, or other obstacles.		

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Rock cut	IV	NO
Kimball	III	NO
2nd falls	III+	NO

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

BOATER NAME: Kayla Sturgeon

Whitewater Boater Run Evaluation Form
Reach 2 – South Drive Bridge to Center Drive Bridge for Run # 1

Date of run: 6/11/22

Target flow: 601 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. (Hard shell kayak) — d. Canoe (open)
b. Inflatable kayak — e. Raft, length: _____
c. Canoe (closed) — f. Other _____

Put-In Location: South Drive **Put-In Time:** 11:30 AM

Take-Out Location: Center Drive **Take-Out Time:** 12:20 pm

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: IV

Enjoyment (relative to the flow of this run)
Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☒
- Optimum ☐
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	4	3	2	1
This reach is boatable at this flow.	5	4	3	2	1
This reach has nice water features (waves, holes, drops).	5	4	3	2	1
This reach has good play spots.	5	4	3	2	1
This reach offers good overall whitewater challenge	5	4	3	2	1
The portages on this Reach are acceptable/usable.	5	4	3	2	1
This is a safe run.	5	4	3	2	1
This run is a good length.	5	4	3	2	1
This is an aesthetically pleasing run.	5	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	10	
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
N/A	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

None

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

Was a great run. Fun. Continous w/ some challenges

BOATER NAME: Mike Sturgeon

Whitewater Boater Run Evaluation Form
Reach 2 – South Drive Bridge to Center Drive Bridge for Run # 1

Date of run: 6/11/22

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

(a) Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** 11:30 P

Take-Out Location: Center Drive **Take-Out Time:** 12:00

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: 4

Enjoyment (relative to the flow of this run)
Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

Much Higher	☐
Higher	☑
Optimum	☐ - But OK
Lower	☐
Much Lower	☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	(5)	4	3	2	1
This reach is boatable at this flow.	(5)	4	3	2	1
This reach has nice water features (waves, holes, drops).	(5)	4	3	2	1
This reach has good play spots.	5	4	(3)	2	1
This reach offers good overall whitewater challenge	5	(4)	3	2	1
The portages on this Reach are acceptable/usable.	5	4	(3)	2	1
This is a safe run.	5	(4)	3	2	1
This run is a good length.	5	(4)	3	2	1
This is an aesthetically pleasing run.	5	(4)	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	3	Not Bad
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Long Section	4	No
Wicked After	3	

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

No

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

Great Section

BOATER NAME: TERRY WARD

Whitewater Boater Run Evaluation Form
Reach 2 – South Drive Bridge to Center Drive Bridge for Run # 1

Date of run: 6/11

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. (Hard shell kayak)
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** 11:20 - 12:30

Take-Out Location: Center Drive **Take-Out Time:** 12:20

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, (IV), or V):

Class: FOUR

Enjoyment (relative to the flow of this run)
Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

Much Higher ☐
Higher ☑
Optimum ☐
Lower ☐
Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	(4)	3	2	1
This reach is boatable at this flow.	5	(4)	3	2	1
This reach has nice water features (waves, holes, drops).	5	(4)	3	2	1
This reach has good play spots.	5	(4)	3	2	1
This reach offers good overall whitewater challenge	5	4	(3)	2	1
The portages on this Reach are acceptable/usable.	5	4	(3)	2	1
This is a safe run.	5	(4)	3	2	1
This run is a good length.	5	(4)	3	2	1
This is an aesthetically pleasing run.	(5)	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	10	
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
LONGEST RAPID OF RUN, CONTINUES	IV	NO
LEDGEY TIERED DROP	III	NO

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

DID NOT

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

600 cfs Flow Release – Reach 3 – South Drive Bridge to Kimball Town Park

BOATER NAME: Ben Bjorkman

Whitewater Boater Run Evaluation Form
Reach 3 – Center Drive Bridge to Kimball Town Park for Run # 1

Date of run: 6-11-22

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: 9'
f. Other _____

Put-In Location: South Drive **Put-In Time:** 12:20

Take-Out Location: Center Drive **Take-Out Time:** 12:30

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: IV

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☑
- Optimum ☐
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	4	3	2	1
This reach is boatable at this flow.	5	4	3	2	1
This reach has nice water features (waves, holes, drops).	5	4	3	2	1
This reach has good play spots.	5	4	3	2	1
This reach offers good overall whitewater challenge	5	4	3	2	1
The portages on this Reach are acceptable/usable.	5	4	3	2	1
This is a safe run.	5	4	3	2	1
This run is a good length.	5	4	3	2	1
This is an aesthetically pleasing run.	5	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	0	
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Kimball Falls	IV	NO

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

BOATER NAME: Jason Blankenheim

Whitewater Boater Run Evaluation Form
Reach 3 – Center Drive Bridge to Kimball Town Park for Run # 1

Date of run: _____

Target flow: 1600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** 12:20

Take-Out Location: Center Drive **Take-Out Time:** 12:34

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: 3-4

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☐
- Optimum ☑
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	4	(3)	2	1
This reach is boatable at this flow.	5	(4)	3	2	1
This reach has nice water features (waves, holes, drops).	5	(4)	3	2	1
This reach has good play spots.	5	4	(3)	2	1
This reach offers good overall whitewater challenge	5	(4)	3	2	1
The portages on this Reach are acceptable/usable.	5	(4)	3	2	1
This is a safe run.	5	4	(3)	2	1
This run is a good length.	5	4	(3)	2	1
This is an aesthetically pleasing run.	(5)	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	5	
I was *stopped* after hitting rocks or other obstacles.	2	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Kimball Falls	3+	NO

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

No

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

BOATER NAME: BRIAN C

Whitewater Boater Run Evaluation Form
Reach 3 – Center Drive Bridge to Kimball Town Park for Run # 1

Date of run: 6/11/22

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** 12:20

Take-Out Location: Center Drive **Take-Out Time:** 12:35

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: IV

Enjoyment (relative to the flow of this run)
Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☑
- Optimum ☐
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	4	3	2	1
This reach is boatable at this flow.	5	4	3	2	1
This reach has nice water features (waves, holes, drops).	5	4	3	2	1
This reach has good play spots.	5	4	3	2	1
This reach offers good overall whitewater challenge	5	4	3	2	1
The portages on this Reach are acceptable/usable.	5	4	3	2	1
This is a safe run.	5	4	3	2	1
This run is a good length.	5	4	3	2	1
This is an aesthetically pleasing run.	5	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	2	SMALL DINGERS
I was *stopped* after hitting rocks or other obstacles.		
I had to *get out* to drag or pull my boat off rocks or other obstacles.		
I had to *portage* around unrunnable rapids, log jams, or other obstacles.		

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
1ST DROP	3 III	No
2nd DROP	3 III	No
S TURN	3 III	No
Kimball	IV +	No

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

N/A

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

CONTINUOUS MOVING H2O
IF PARTICIPANTS WERE IN WATER
THEY THEY'D BE GETTING PULLED
DOWNSTREAM AT WAYS

BOATER NAME: Matthew Hansen

Whitewater Boater Run Evaluation Form
Reach 3 – Center Drive Bridge to Kimball Town Park for Run # 1

Date of run: 7/11/22

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** 12:30

Take-Out Location: Center Drive **Take-Out Time:** 12:50

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: III+

Enjoyment (relative to the flow of this run)
Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☒
- Optimum ☐
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	4	3	2	1
This reach is boatable at this flow.	5	4	3	2	1
This reach has nice water features (waves, holes, drops).	5	4	3	2	1
This reach has good play spots.	5	4	3	2	1
This reach offers good overall whitewater challenge	5	4	3	2	1
The portages on this Reach are acceptable/usable.	5	4	3	2	1
This is a safe run.	5	4	3	2	1
This run is a good length.	5	4	3	2	1
This is an aesthetically pleasing run.	5	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.		
I was *stopped* after hitting rocks or other obstacles.		
I had to *get out* to drag or pull my boat off rocks or other obstacles.		
I had to *portage* around unrunnable rapids, log jams, or other obstacles.		

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

BOATER NAME: Elita H

Whitewater Boater Run Evaluation Form
Reach 3 – Center Drive Bridge to Kimball Town Park for Run # 1

Date of run: 6-11-20

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: 10'
f. Other _____

Put-In Location: South Drive **Put-In Time:** 12:20

Take-Out Location: Center Drive **Take-Out Time:** 12:36

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: 4

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☒
- Optimum ☐
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	4	3	2	1
This reach is boatable at this flow.	5	4	3	2	1
This reach has nice water features (waves, holes, drops).	5	4	3	2	1
This reach has good play spots.	5	4	3	2	1
This reach offers good overall whitewater challenge	5	4	3	2	1
The portages on this Reach are acceptable/usable.	5	4	3	2	1
This is a safe run.	5	4	3	2	1
This run is a good length.	5	4	3	2	1
This is an aesthetically pleasing run.	5	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	1	
I was *stopped* after hitting rocks or other obstacles.	1-2	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	1	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

BOATER NAME: AUSTIN 1220

Whitewater Boater Run Evaluation Form
Reach 3 – Center Drive Bridge to Kimball Town Park for Run # 1

Date of run: 6/11/22

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** 1220

Take-Out Location: Center Drive **Take-Out Time:** 1240

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: II - IV

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☑
- Optimum ☐
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	(5)	4	3	2	1
This reach is boatable at this flow.	(5)	4	3	2	1
This reach has nice water features (waves, holes, drops).	(5)	4	3	2	1
This reach has good play spots.	(5)	4	3	2	1
This reach offers good overall whitewater challenge	(5)	4	3	2	1
The portages on this Reach are acceptable/usable.	(5)	4	3	2	1
This is a safe run.	(5)	4	3	2	1
This run is a good length.	(5)	4	3	2	1
This is an aesthetically pleasing run.	(5)	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	0	
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

BOATER NAME: Tim Kordecki

Whitewater Boater Run Evaluation Form
Reach 3 – Center Drive Bridge to Kimball Town Park for Run # 1

Date of run: 6/11

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** _____

Take-Out Location: Center Drive **Take-Out Time:** _____

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: III

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☑
- Optimum ☐
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	(5)	4	3	2	1
This reach is boatable at this flow.	(5)	4	3	2	1
This reach has nice water features (waves, holes, drops).	5	4	(3)	2	1
This reach has good play spots.	5	4	3	(2)	1
This reach offers good overall whitewater challenge	5	4	(3)	2	1
The portages on this Reach are acceptable/usable.	(5)	4	3	2	1
This is a safe run.	(5)	4	3	2	1
This run is a good length.	5	(4)	3	2	1
This is an aesthetically pleasing run.	5	(4)	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	0	
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Kimball falls	III	NO

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

BOATER NAME: Brian Krueger

Whitewater Boater Run Evaluation Form
Reach 3 – Center Drive Bridge to Kimball Town Park for Run # 1

Date of run: 6/11/22

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: 12'
f. Other

Put-In Location: South Drive **Put-In Time:** 12:20

Take-Out Location: Center Drive **Take-Out Time:** 12-30

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: III

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☒
- Optimum ☒
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	(5)	4	3	2	1
This reach is boatable at this flow.	(5)	4	3	2	1
This reach has nice water features (waves, holes, drops).	(5)	4	3	2	1
This reach has good play spots.	5	4	3	(2)	1
This reach offers good overall whitewater challenge	(5)	4	3	2	1
The portages on this Reach are acceptable/usable.	5	4	(3)	2	1
This is a safe run.	(5)	4	3	2	1
This run is a good length.	(5)	4	3	2	1
This is an aesthetically pleasing run.	(5)	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	3	
I was *stopped* after hitting rocks or other obstacles.		
I had to *get out* to drag or pull my boat off rocks or other obstacles.		
I had to *portage* around unrunnable rapids, log jams, or other obstacles.		

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Fun drops	III	No
Kimball is great	III-IV	No

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

great addition to section 2.

BOATER NAME: Tony Locken

Whitewater Boater Run Evaluation Form
Reach 3 – Center Drive Bridge to Kimball Town Park for Run # 1

Date of run: 11 JUN

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** 12:20

Take-Out Location: Center Drive **Take-Out Time:** 12:30

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: III

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☒
- Optimum ☐
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	(4)	3	2	1
This reach is boatable at this flow.	5	(4)	3	2	1
This reach has nice water features (waves, holes, drops).	5	(4)	3	2	1
This reach has good play spots.	5	(4)	3	2	1
This reach offers good overall whitewater challenge	5	(4)	3	2	1
The portages on this Reach are acceptable/usable.	(5)	4	3	2	1
This is a safe run.	(5)	4	3	2	1
This run is a good length.	(5)	4	3	2	1
This is an aesthetically pleasing run.	(5)	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	10	
I was *stopped* after hitting rocks or other obstacles.	2	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	6	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Kimball falls	III	No

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

N/A

BOATER NAME: Hunter

Whitewater Boater Run Evaluation Form
Reach 3 – Center Drive Bridge to Kimball Town Park for Run # 1

Date of run: 6/11

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** _____

Take-Out Location: Center Drive **Take-Out Time:** 12:30

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: 3

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☒
- Optimum ☐
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	4	(3)	2	1
This reach is boatable at this flow.	5	4	(3)	2	1
This reach has nice water features (waves, holes, drops).	5	(4)	3	2	1
This reach has good play spots.	5	4	3	2	(1)
This reach offers good overall whitewater challenge	5	4	(3)	2	1
The portages on this Reach are acceptable/usable.	5	4	(3)	2	1
This is a safe run.	5	4	(3)	2	1
This run is a good length.	5	(4)	3	2	1
This is an aesthetically pleasing run.	(5)	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	2	
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Kimball Falls	III	NO

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Clearing of brush from river banks

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

little bit rocky, could use more water

BOATER NAME: John Rally

Whitewater Boater Run Evaluation Form
Reach 3 – Center Drive Bridge to Kimball Town Park for Run # 1

Date of run: 6/11/22

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** 12:20 pm

Take-Out Location: Center Drive **Take-Out Time:** 12:42pm

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: IV

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☐
- Optimum ☑
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	(5)	4	3	2	1
This reach is boatable at this flow.	(5)	4	3	2	1
This reach has nice water features (waves, holes, drops).	(5)	4	3	2	1
This reach has good play spots.	(5)	4	(3)	2	1
This reach offers good overall whitewater challenge	(5)	4	3	2	1
The portages on this Reach are acceptable/usable.	(5)	4	3	2	1
This is a safe run.	(5)	4	3	2	1
This run is a good length.	(5)	4	3	2	1
This is an aesthetically pleasing run.	(5)	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	1	
I was *stopped* after hitting rocks or other obstacles.	1	Not Bad
I had to *get out* to drag or pull my boat off rocks or other obstacles.		
I had to *portage* around unrunnable rapids, log jams, or other obstacles.		

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)

Portages N/A

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below. No Issues

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

Loved it! Would love to run again!

BOATER NAME: Fabian Robin

Whitewater Boater Run Evaluation Form
Reach 3 – Center Drive Bridge to Kimball Town Park for Run # 1

Date of run: 6.11.22

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** 1220

Take-Out Location: Center Drive **Take-Out Time:** 1230

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: III

Enjoyment (relative to the flow of this run)
Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☑
- Optimum ☐
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	(4)	3	2	1
This reach is boatable at this flow.	5	(4)	3	2	1
This reach has nice water features (waves, holes, drops).	5	(4)	3	2	1
This reach has good play spots.	5	(4)	3	2	1
This reach offers good overall whitewater challenge	5	4	(3)	2	1
The portages on this Reach are acceptable/usable.	(5)	4	3	2	1
This is a safe run.	(5)	4	3	2	1
This run is a good length.	5	(4)	3	2	1
This is an aesthetically pleasing run.	5	(4)	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	15	Lots of rocks
I was *stopped* after hitting rocks or other obstacles.		
I had to *get out* to drag or pull my boat off rocks or other obstacles.		
I had to *portage* around unrunnable rapids, log jams, or other obstacles.		

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Kimball Falls	III	no

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Tree Strainers could be issue

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

BOATER NAME: Kayla Stugeon

Whitewater Boater Run Evaluation Form
Reach 3 – Center Drive Bridge to Kimball Town Park for Run # 1

Date of run: 6/11/22

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. (Hard shell kayak)
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** 12:20

Take-Out Location: Center Drive **Take-Out Time:** 12:40

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: 3

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☒
- Optimum ☐
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	4	3	2	1
This reach is boatable at this flow.	5	4	3	2	1
This reach has nice water features (waves, holes, drops).	5	4	3	2	1
This reach has good play spots.	5	4	3	2	1
This reach offers good overall whitewater challenge	5	4	3	2	1
The portages on this Reach are acceptable/usable.	5	4	3	2	1
This is a safe run.	5	4	3	2	1
This run is a good length.	5	4	3	2	1
This is an aesthetically pleasing run.	5	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	13	Shallow a spots
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Kimball Falls	3	N Possible

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
Kimball Did not portage but could	(4)	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

None

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

Great run. More water would help take shallow rocks out of play plus make it safer if there was a swim.

Is a good splat / spin rock @ this level.

Oh! In stretch 2 there was barb wire on shore where we scouted. otherwise river has been pretty clean / free of litter

BOATER NAME: Matt Swigon

Whitewater Boater Run Evaluation Form
Reach 3 – Center Drive Bridge to Kimball Town Park for Run # 1

Date of run: 6/11/22

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** 12:25

Take-Out Location: Center Drive **Take-Out Time:** 12:40

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: 3

Enjoyment (relative to the flow of this run)
Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☐ could be higher
- Optimum ☑
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	(5)	4	3	2	1
This reach is boatable at this flow.	(5)	4	3	2	1
This reach has nice water features (waves, holes, drops).	5	(4)	3	2	1
This reach has good play spots.	5	4	(3)	2	1
This reach offers good overall whitewater challenge	5	(4)	3	2	1
The portages on this Reach are acceptable/usable.	5	(4)	3	2	1
This is a safe run.	(5)	4	3	2	1
This run is a good length.	(5)	4	3	2	1
This is an aesthetically pleasing run.	(5)	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	lots	low but well high
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Falls @ Eng	III	No

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

BOATER NAME: TERRY WARD

Whitewater Boater Run Evaluation Form
Reach 3 – Center Drive Bridge to Kimball Town Park for Run # 1

Date of run: 6/14

Target flow: 600 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. (Hard shell kayak)
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** 12:20

Take-Out Location: Center Drive **Take-Out Time:** 12:40

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, (III), IV, or V):

Class: 3

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☑
- Optimum ☐
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	(4)	3	2	1
This reach is boatable at this flow.	5	(4)	3	2	1
This reach has nice water features (waves, holes, drops).	5	(4)	3	2	1
This reach has good play spots.	5	(4)	3	2	1
This reach offers good overall whitewater challenge	5	(4)	3	2	1
The portages on this Reach are acceptable/usable.	5	(4)	3	2	1
This is a safe run.	5	(4)	3	2	1
This run is a good length.	5	(4)	3	2	1
This is an aesthetically pleasing run.	5	(4)	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	3	
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
KIMBALL FALLS	III	NO

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

DID NOT

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

Appendix Q Level 3 Assessment – Completed Whitewater Study Boater Evaluation Forms for 1,200 cfs Flow Release, all Reaches

Note: survey responses included documentation or markings on the maps include for Reach 1, Reach 2, or Reach 3; therefore, all maps were removed from all survey responses included in this Appendix in consideration of file size limits.

1,200 cfs Flow Release – Reach 1 – Gile Dam to South Drive Bridge

BOATER NAME: Ben Bjorkman

Whitewater Boater Run Evaluation Form
Reach 1 – Gile Dam to South Drive Bridge for Run # 2

Date of run: 06/11/2022

Target flow: 1200 cfs

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: 9'
f. Other _____

Put-In Location: Gile Dam **Put-In Time:** _____

Take-Out Location: South Drive **Take-Out Time:** _____

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: I V

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

Much Higher	☐
Higher	☐
Optimum	–
Lower	☐
Much Lower	☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	4	3	2	1
This reach is boatable at this flow.	5	4	3	2	1
This reach has nice water features (waves, holes, drops).	5	4	3	2	1
This reach has good play spots.	5	4	3	2	1
This reach offers good overall whitewater challenge	5	4	3	2	1
The portages on this Reach are acceptable/usable.	5	4	3	2	1
This is a safe run.	5	4	3	2	1
This run is a good length.	5	4	3	2	1
This is an aesthetically pleasing run.	5	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	1	Hit bottom of bigde
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Gile falls	1 ✓	Yes

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

We hit the bottom of the bridge at gile falls. Would be an easy portage around.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

Below gile falls is a wonderful class I-II

BOATER NAME: Jason Blankenheim

Whitewater Boater Run Evaluation Form
Reach 1 – Gile Dam to South Drive Bridge for Run # 2

Date of run: _____

Target flow: 1200 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak (circled)
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: Gile Dam **Put-In Time:** 12:30 est.

Take-Out Location: South Drive **Take-Out Time:** _____

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: 4

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☐
- Optimum ☐ > Somewhere between 1000-1200
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	(5)	4	3	2	1
This reach is boatable at this flow.	(5)	4	3	2	1
This reach has nice water features (waves, holes, drops).	(5)	4	3	2	1
This reach has good play spots.	(5)	4	3	2	1
This reach offers good overall whitewater challenge	(5)	4	3	2	1
The portages on this Reach are acceptable/usable.	(5)	4	3	2	1
This is a safe run.	5	(4)	3	2	1
This run is a good length.	(5)	4	3	2	1
This is an aesthetically pleasing run.	(5)	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	2	
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Gile Falls	4	

Bridge was really low @ 1200

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Bridge can be a low obstacle/pin at this level

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

BOATER NAME: BRIAN CASTILLO

Whitewater Boater Run Evaluation Form
Reach 1 – Gile Dam to South Drive Bridge for Run # 2

Date of run: 6/11/22

Target flow: 1200 cfs.

What type of craft did you use for this run (circle or put a check next to one):

(a.) Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: Gile Dam **Put-In Time:** 2:20P

Take-Out Location: South Drive **Take-Out Time:** _____

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: ONE IV + BUT OTHERWISE I-II

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

Much Higher	☐
Higher	☐
Optimum	☐
Lower	☒ MAYBE LIKE 1000 CFS
Much Lower	☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	(5)	4	3	2	1
This reach is boatable at this flow.	5	(4)	3	2	1
This reach has nice water features (waves, holes, drops).	5	(4)	3	2	1
This reach has good play spots.	5	(4)	3	2	1
This reach offers good overall whitewater challenge	5	(4)	3	2	1
The portages on this Reach are acceptable/usable.	5	(4)	3	2	1
This is a safe run.	5	(4)	3	2	1
This run is a good length.	5	(4)	3	2	1
This is an aesthetically pleasing run.	(5)	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	—	
I was *stopped* after hitting rocks or other obstacles.	—	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	—	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	1	CHOSE NOT TO RUN GILE FALLS

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
GILE FALLS, FIRST DROP WAS A BIT SKETCHY / TOUGH TO GET UNDER BRIDGE	IV	YES

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
AROUND GILE FALLS	(4)	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

N/A

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

WOULD RECOMMEND SETTING SAFETY @ GILE FALLS IF FOLKS WERE GOING TO RUN THAT

BOATER NAME: Tim Kordecki

Whitewater Boater Run Evaluation Form
Reach 1 – Gile Dam to South Drive Bridge for Run # 2

Date of run: 6/11

Target flow: 1200 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak (circled)
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: Gile Dam **Put-In Time:** _____

Take-Out Location: South Drive **Take-Out Time:** _____

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: IV

Enjoyment (relative to the flow of this run)
Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☐
- Optimum ☑
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	4	3	2	1
This reach is boatable at this flow.	5	4	3	2	1
This reach has nice water features (waves, holes, drops).	5	4	3	2	1
This reach has good play spots.	5	4	3	2	1
This reach offers good overall whitewater challenge	5	4	3	2	1
The portages on this Reach are acceptable/usable.	5	4	3	2	1
This is a safe run.	5	4	3	2	1
This run is a good length.	5	4	3	2	1
This is an aesthetically pleasing run.	5	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.		
I was *stopped* after hitting rocks or other obstacles.		
I had to *get out* to drag or pull my boat off rocks or other obstacles.		
I had to *portage* around unrunnable rapids, log jams, or other obstacles.		

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

The first bridge after Gile falls was too low everywhere except the far left side.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

1200 cfs is a great flow for solid class 4 boaters/kayakers

BOATER NAME: Brian Krueger

Whitewater Boater Run Evaluation Form
Reach 1 – Gile Dam to South Drive Bridge for Run # 2

Date of run: 6/11/22

Target flow: 1200 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: Gile Dam **Put-In Time:** _____

Take-Out Location: South Drive **Take-Out Time:** _____

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: IV+

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☐
- Optimum ☐
- Lower ☒
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	4	3	2	(1)
This reach is boatable at this flow.	5	4	3	(2)	1
This reach has nice water features (waves, holes, drops).	5	4	(3)	2	1
This reach has good play spots.	5	4	3	2	(1)
This reach offers good overall whitewater challenge	5	4	(3)	2	1
The portages on this Reach are acceptable/usable.	5	4	(3)	2	1
This is a safe run.	5	4	(3)	2	1
This run is a good length.	5	(4)	3	2	1
This is an aesthetically pleasing run.	5	(4)	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	0	
I was *stopped* after hitting rocks or other obstacles.		
I had to *get out* to drag or pull my boat off rocks or other obstacles.		
I had to *portage* around unrunnable rapids, log jams, or other obstacles.		

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, (V))	Portage (Yes or (No))
gile falls has a large sticky looking hole, may be sneaked out the left, but didn't try it. Ran safer left channel and hit my head on the bridge		

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

The large hole in the middle of giles could be problematic. Setting safety to run the meat is a very good idea.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

There are not enough [redacted] features on this section to warrant me to paddle again.

BOATER NAME: Tony Locken

Whitewater Boater Run Evaluation Form
Reach 1 – Gile Dam to South Drive Bridge for Run # 2

Date of run: 11 JUN 22

Target flow: 1200 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: Gile Dam **Put-In Time:** _____

Take-Out Location: South Drive **Take-Out Time:** _____

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: IV

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☐
- Optimum ☐
- Lower ☒
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	4	3	(2)	1
This reach is boatable at this flow.	5	(4)	3	2	1
This reach has nice water features (waves, holes, drops).	5	(4)	3	2	1
This reach has good play spots.	5	4	3	(2)	1
This reach offers good overall whitewater challenge	5	(4)	3	2	1
The portages on this Reach are acceptable/usable.	5	(4)	3	2	1
This is a safe run.	5	(4)	3	2	1
This run is a good length.	5	4	3	(2)	1
This is an aesthetically pleasing run.	5	(4)	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	(5)	
I was *stopped* after hitting rocks or other obstacles.	(0)	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	(0)	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	1	GILE FALLS

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
GILE FALLS	IV	Yes

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

BOATER NAME: Brian Robin

Whitewater Boater Run Evaluation Form
Reach 1 – Gile Dam to South Drive Bridge for Run # 2

Date of run: 6.11.22

Target flow: 1200 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: Gile Dam **Put-In Time:** _____

Take-Out Location: South Drive **Take-Out Time:** _____

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: Gile Falls - IV Rest II - III

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☐
- Optimum ☒
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	4	3	2	1
This reach is boatable at this flow.	5	4	3	2	1
This reach has nice water features (waves, holes, drops).	5	4	3	2	1
This reach has good play spots.	5	4	3	2	1
This reach offers good overall whitewater challenge	5	4	3	2	1
The portages on this Reach are acceptable/usable.	5	4	3	2	1
This is a safe run.	5	4	3	2	1
This run is a good length.	5	4	3	2	1
This is an aesthetically pleasing run.	5	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	0	
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	1	Bridge above Gile Falls

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Gile Falls	IV	no

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
River Left above bridge	(4)	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

N/a

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

Great Level

BOATER NAME: Nathan S.

Whitewater Boater Run Evaluation Form
Reach 1 – Gile Dam to South Drive Bridge for Run # 2

Date of run: 6/11/22

Target flow: 1200 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: Gile Dam **Put-In Time:** _____

Take-Out Location: South Drive **Take-Out Time:** _____

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: IV

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☐
- Optimum ☐
- Lower ☒
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	4	(3)	2	1
This reach is boatable at this flow.	5	(4)	3	2	1
This reach has nice water features (waves, holes, drops).	5	(4)	3	2	1
This reach has good play spots.	5	4	3	(2)	1
This reach offers good overall whitewater challenge	5	4	(3)	2	1
The portages on this Reach are acceptable/usable.	5	(4)	3	2	1
This is a safe run.	5	4	(3)	2	1
This run is a good length.	5	(4)	3	2	1
This is an aesthetically pleasing run.	5	(4)	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	0	
I was *stopped* after hitting rocks or other obstacles.		
I had to *get out* to drag or pull my boat off rocks or other obstacles.		
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	1	portage Gile Falls Low bridge

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Gile falls	IV	Yes

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
Gile Falls	(4)	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Gile Falls bridge is a possible hazard due to low clearance at this level.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

BOATER NAME: Kayla Sturgeon

Whitewater Boater Run Evaluation Form
Reach 1 – Gile Dam to South Drive Bridge for Run # 2

Date of run: _____

Target flow: 1200 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: Gile Dam **Put-In Time:** _____

Take-Out Location: South Drive **Take-Out Time:** _____

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: 2 w/ a 4 (Giles Falls)

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

Much Higher	☐
Higher	☐
Optimum	☒ optimum for everything after Giles Falls Bridge was barely runnable b/c too high so lower would be good for that rapid only
Lower	☒
Much Lower	☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	(5)	4	3	2	1
This reach is boatable at this flow.	(5)	4	3	2	1
This reach has nice water features (waves, holes, drops).	(5)	4	3	2	1
This reach has good play spots.	(5)	4	3	2	1
This reach offers good overall whitewater challenge	(5)	4	3	2	1
The portages on this Reach are acceptable/usable.	(5)	4	3	2	1
This is a safe run.	(5)	4	3	2	1
This run is a good length.	(5)	4	3	2	1
This is an aesthetically pleasing run.	(5)	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	2	
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	1	Giles Falls under the bridge. Put in after. Some ppl run the sneak on the L, but it's a little sketchy.

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Giles Falls	IV	Y

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
Giles Falls	4	(3)	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

No. Was good. River is very clean.
Over hanging Branches in parts, but easily avoidable.

Bridge @ Giles Falls is ~~[illegible]~~ pin/sweeper hazard on right side, which is what we ran @ 600 cfs. Sneak on L or portage.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

Higher flow made the flat water section a fun II. ~~[illegible]~~ A few waves, + potential play spots. Mostly just bomb it. Is a good warm up for the next section.

2nd 1/2 Giles Falls (after bridge) is paddled out and good II.

BOATER NAME: Matt Sturgeon

Whitewater Boater Run Evaluation Form
Reach 1 – Gile Dam to South Drive Bridge for Run # 2

Date of run: 6/11/22

Target flow: 1200 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: Gile Dam **Put-In Time:** 2:00

Take-Out Location: South Drive **Take-Out Time:** _____

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: 3

Enjoyment (relative to the flow of this run)
Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☐
- Optimum ☐
- Lower ☑
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	(5)	4	3	2	1
This reach is boatable at this flow.	5	4	(3)	2	1
This reach has nice water features (waves, holes, drops).	5	4	3	(2)	1
This reach has good play spots.	5	4	3	(2)	1
This reach offers good overall whitewater challenge	5	(4)	3	2	1
The portages on this Reach are acceptable/usable.	5	(4)	3	2	1
This is a safe run.	5	4	3	(2)	1
This run is a good length.	5	4	3	(2)	1
This is an aesthetically pleasing run.	5	(4)	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	(0)	
I was *stopped* after hitting rocks or other obstacles.	(0)	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	(0)	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	1	Bridge water too High NO Clearance

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Gile Full	4- large Hole 3- Portage	yes
Flat water	I	

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
River left, Put in after Bridge	(4)	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Bridge too low Due to High water

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

1,200 cfs Flow Release – Reach 2 – South Drive Bridge to Center Drive Bridge

BOATER NAME: Ben Bjorkman

Whitewater Boater Run Evaluation Form
Reach 2 – South Drive Bridge to Center Drive Bridge for Run # 2

Date of run: 06/11/2022

Target flow: 1200 cfs

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: 9
f. Other _____

Put-In Location: South Drive **Put-In Time:** _____

Take-Out Location: Center Drive **Take-Out Time:** _____

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: I - II

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☐
- Optimum ☑
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	4	3	2	1
This reach is boatable at this flow.	5	4	3	2	1
This reach has nice water features (waves, holes, drops).	5	4	3	2	1
This reach has good play spots.	5	4	3	2	1
This reach offers good overall whitewater challenge	5	4	3	2	1
The portages on this Reach are acceptable/usable.	5	4	3	2	1
This is a safe run.	5	4	3	2	1
This run is a good length.	5	4	3	2	1
This is an aesthetically pleasing run.	5	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.		
I was *stopped* after hitting rocks or other obstacles.		
I had to *get out* to drag or pull my boat off rocks or other obstacles.		
I had to *portage* around unrunnable rapids, log jams, or other obstacles.		

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

Wonderful class I-II section for beginners or tubing

BOATER NAME: Jason Blankenheim

Whitewater Boater Run Evaluation Form
Reach 2 – South Drive Bridge to Center Drive Bridge for Run # 2

Date of run: _____

Target flow: 1200 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. (Hard shell kayak)
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** no idea

Take-Out Location: Center Drive **Take-Out Time:** _____

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: 4

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☐
- Optimum ☑ disregard answer from 6:00!
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	(5)	4	3	2	1
This reach is boatable at this flow.	(5)	4	3	2	1
This reach has nice water features (waves, holes, drops).	(5)	4	3	2	1
This reach has good play spots.	(5)	4	3	2	1
This reach offers good overall whitewater challenge	(5)	4	3	2	1
The portages on this Reach are acceptable/usable.	(5)	4	3	2	1
This is a safe run.	(5)	4	3	2	1
This run is a good length.	(5)	4	3	2	1
This is an aesthetically pleasing run.	(5)	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	2-3	
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Canyon - ton of fun!	4	

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

No

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

Super fun @ 1200!

BOATER NAME: BRIAN CASTILLO

Whitewater Boater Run Evaluation Form
Reach 2 – South Drive Bridge to Center Drive Bridge for Run # 2

Date of run: 6/11/22

Target flow: 1200 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** ?

Take-Out Location: Center Drive **Take-Out Time:** ?

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: MOSTLY II & THEN III

Enjoyment (relative to the flow of this run)
Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

Much Higher	☐
Higher	☐
Optimum	☒
Lower	☐
Much Lower	☐

- FELT LIKE A GOOD LEVEL WOULD BE CURIOUS ABOUT 1400-1600 CFS

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	(5)	4	3	2	1
This reach is boatable at this flow.	(5)	4	3	2	1
This reach has nice water features (waves, holes, drops).	(5)	4	3	2	1
This reach has good play spots.	5	(4)	3	2	1
This reach offers good overall whitewater challenge	(5)	4	3	2	1
The portages on this Reach are acceptable/usable.	(5)	4	3	2	1
This is a safe run.	5	(4)	3	2	1
This run is a good length.	(5)	4	3	2	1
This is an aesthetically pleasing run.	(5)	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	1	GOT OFF LINE
I was *stopped* after hitting rocks or other obstacles.	—	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	—	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	—	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
RAILROAD - LONG, CONTINUOUS, BIG	IV	NO
5 DROP - LITTLE PUNCHY	III	NO

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

N/A

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

I BELIEVE THE BEGINNING IS QUITE FLAT & THEN ONCE YOU HIT RAILROAD IT'S PRETTY FULL OF UNTIL THE END

BOATER NAME: Tim Kordecki

Whitewater Boater Run Evaluation Form
Reach 2 – South Drive Bridge to Center Drive Bridge for Run # 2

Date of run: 6/11

Target flow: 1200 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** _____

Take-Out Location: Center Drive **Take-Out Time:** _____

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: IV

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☐
- Optimum ☑
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	(5)	4	3	2	1
This reach is boatable at this flow.	(5)	4	3	2	1
This reach has nice water features (waves, holes, drops).	(5)	4	3	2	1
This reach has good play spots.	(5)	4	3	2	1
This reach offers good overall whitewater challenge	(5)	4	3	2	1
The portages on this Reach are acceptable/usable.	(5)	4	3	2	1
This is a safe run.	(5)	4	3	2	1
This run is a good length.	(5)	4	3	2	1
This is an aesthetically pleasing run.	(5)	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.		
I was *stopped* after hitting rocks or other obstacles.		
I had to *get out* to drag or pull my boat off rocks or other obstacles.		
I had to *portage* around unrunnable rapids, log jams, or other obstacles.		

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Rock Cut Falls	IV	NO
Holes after Rock Cut Falls	III – IV	NO

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

BOATER NAME: Brian Krueger

Whitewater Boater Run Evaluation Form
Reach 2 – South Drive Bridge to Center Drive Bridge for Run # 2

Date of run: 6/11/22

Target flow: 1200 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. (Hard shell kayak)
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** _____

Take-Out Location: Center Drive **Take-Out Time:** _____

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, (IV), or V):

Class: IV +

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☐
- Optimum ☒
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	(5)	4	3	2	1
This reach is boatable at this flow.	(5)	4	3	2	1
This reach has nice water features (waves, holes, drops).	(5)	4	3	2	1
This reach has good play spots.	5	4	3	(2)	1
This reach offers good overall whitewater challenge	(5)	4	3	2	1
The portages on this Reach are acceptable/usable.	5	4	(3)	2	1
This is a safe run.	5	4	(3)	2	1
This run is a good length.	(5)	4	3	2	1
This is an aesthetically pleasing run.	(5)	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	3	rocks were harder
I was *stopped* after hitting rocks or other obstacles.	0	to see and avoid at
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	this level
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, (IV), V)	Portage (Yes or No)
• canyon was wild!		
very fun for an advanced		
paddler		

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

great run! would come back

BOATER NAME: Tony Locken

Whitewater Boater Run Evaluation Form
Reach 2 – South Drive Bridge to Center Drive Bridge for Run # 2

Date of run: 11JUN22

Target flow: 1200 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. (Hard shell kayak)
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** _____

Take-Out Location: Center Drive **Take-Out Time:** _____

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: III

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☒
- Optimum ☐
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	(5)	4	3	2	1
This reach is boatable at this flow.	(5)	4	3	2	1
This reach has nice water features (waves, holes, drops).	(5)	4	3	2	1
This reach has good play spots.	5	4	3	(2)	1
This reach offers good overall whitewater challenge	(5)	4	3	2	1
The portages on this Reach are acceptable/usable.	(5)	4	3	2	1
This is a safe run.	(5)	4	3	2	1
This run is a good length.	(5)	4	3	2	1
This is an aesthetically pleasing run.	(5)	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	3	
I was *stopped* after hitting rocks or other obstacles.	3	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Canyon	III	NO
2nd drop ledges	III	No

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

BOATER NAME: Brian Robin

Whitewater Boater Run Evaluation Form
Reach 2 – South Drive Bridge to Center Drive Bridge for Run # 2

Date of run: 6.11.22

Target flow: 1200 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak (circled)
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** _____

Take-Out Location: Center Drive **Take-Out Time:** _____

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: IV

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

Much Higher	☐
Higher	☑
Optimum	☐
Lower	☐
Much Lower	☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	(5)	4	3	2	1
This reach is boatable at this flow.	(5)	4	3	2	1
This reach has nice water features (waves, holes, drops).	(5)	4	3	2	1
This reach has good play spots.	5	4	(3)	2	1
This reach offers good overall whitewater challenge	(5)	4	3	2	1
The portages on this Reach are acceptable/usable.	(5)	4	3	2	1
This is a safe run.	(5)	4	3	2	1
This run is a good length.	(5)	4	3	2	1
This is an aesthetically pleasing run.	(5)	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	6	Maneuverable
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Canyon	IV	no
Second drop / ledges	III+	no

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Seemed fine, wood has potential to collect but enough flow to keep wood clear

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

Amazing level

BOATER NAME: Nathan S

Whitewater Boater Run Evaluation Form
Reach 2 – South Drive Bridge to Center Drive Bridge for Run # 2

Date of run: 6/11/22

Target flow: 1200 cfs.

What type of craft did you use for this run (circle or put a check next to one):

(a) Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** _____

Take-Out Location: Center Drive **Take-Out Time:** _____

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: IV

Enjoyment (relative to the flow of this run)
Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☐
- Optimum ☒
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	(5)	4	3	2	1
This reach is boatable at this flow.	(5)	4	3	2	1
This reach has nice water features (waves, holes, drops).	(5)	4	3	2	1
This reach has good play spots.	5	(4)	3	2	1
This reach offers good overall whitewater challenge	(5)	4	3	2	1
The portages on this Reach are acceptable/usable.	5	(4)	3	2	1
This is a safe run.	5	(4)	3	2	1
This run is a good length.	(5)	4	3	2	1
This is an aesthetically pleasing run.	(5)	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	0	
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Rock at falls	IV	no
2nd falls	IV	no

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

BOATER NAME: Kayla Sturgeon

Whitewater Boater Run Evaluation Form
Reach 2 – South Drive Bridge to Center Drive Bridge for Run # 2

Date of run: _____

Target flow: 1200 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** _____

Take-Out Location: Center Drive **Take-Out Time:** _____

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: IV

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☐
- Optimum ☒
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	4	3	2	1
This reach is boatable at this flow.	5	4	3	2	1
This reach has nice water features (waves, holes, drops).	5	4	3	2	1
This reach has good play spots.	5	4	3	2	1
This reach offers good overall whitewater challenge	5	4	3	2	1
The portages on this Reach are acceptable/usable.	5	4	3	2	1
This is a safe run.	5	4	3	2	1
This run is a good length.	5	4	3	2	1
This is an aesthetically pleasing run.	5	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	5	
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Canyon section	IV	N

Fun section but wouldn't want to swim.

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
N/A	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

No

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

Amazing fun. Rocks get padded out and make a fun series of ~~wa~~ continuous Class III + IV waves and holes.

Rating as a IV b/c you want a solid roll + would not want to swim this season. Would be very hard to get boat + swimmer after a swim until quite awhile. Would be safe swim for the most part. Holes flushy.

A few ppl on properties along the way waved.

BOATER NAME: Matt Sturgeon

Whitewater Boater Run Evaluation Form
Reach 2 – South Drive Bridge to Center Drive Bridge for Run # 2

Date of run: 6/11/22

Target flow: 1200 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** _____

Take-Out Location: Center Drive **Take-Out Time:** _____

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: 4

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

Much Higher ☐
Higher ☐
Optimum ☒ so good
Lower ☐
Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	(5)	4	3	2	1
This reach is boatable at this flow.	(5)	4	3	2	1
This reach has nice water features (waves, holes, drops).	5	(4)	3	2	1
This reach has good play spots.	5	4	(3)	2	1
This reach offers good overall whitewater challenge	(5)	4	3	2	1
The portages on this Reach are acceptable/usable.	(5)	4	3	2	1
This is a safe run.	5	(4)	3	2	1
This run is a good length.	5	(4)	3	2	1
This is an aesthetically pleasing run.	(5)	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	3	Bad line I took
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Canyon - Great Section	4	
Water Effect	3	
Ledge	3+	
Water effect	3	

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

Best Section Constant whitewater for over a mile

1,200 cfs Flow Release – Reach 3 – South Drive Bridge to Kimball Town Park

BOATER NAME: Ben Bjorkman

Whitewater Boater Run Evaluation Form
Reach 3 – Center Drive Bridge to Kimball Town Park for Run # 2

Date of run: 06/11/2022

Target flow: 1200 cfs

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: 9'
f. Other _____

Put-In Location: South Drive **Put-In Time:** _____

Take-Out Location: Center Drive **Take-Out Time:** _____

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: I V

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☐
- Optimum ☑
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	4	3	2	1
This reach is boatable at this flow.	5	4	3	2	1
This reach has nice water features (waves, holes, drops).	5	4	3	2	1
This reach has good play spots.	5	4	3	2	1
This reach offers good overall whitewater challenge	5	4	3	2	1
The portages on this Reach are acceptable/usable.	5	4	3	2	1
This is a safe run.	5	4	3	2	1
This run is a good length.	5	4	3	2	1
This is an aesthetically pleasing run.	5	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.		
I was *stopped* after hitting rocks or other obstacles.		
I had to *get out* to drag or pull my boat off rocks or other obstacles.		
I had to *portage* around unrunnable rapids, log jams, or other obstacles.		

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Rock cut	I ✓	N
30seconds of rapids	II II	N
Kimball falls	I ✓	N

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

This is a wonderful section that with this flow would be an awesome commercial raft run.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

BOATER NAME: Jason Blankenheim

Whitewater Boater Run Evaluation Form
Reach 3 – Center Drive Bridge to Kimball Town Park for Run # 2

Date of run: _____

Target flow: 1200 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak (C)
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** No idea

Take-Out Location: Center Drive **Take-Out Time:** _____

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: 4

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

Much Higher	☐
Higher	☐
Optimum	☑
Lower	☐
Much Lower	☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	(5)	4	3	2	1
This reach is boatable at this flow.	(5)	4	3	2	1
This reach has nice water features (waves, holes, drops).	(5)	4	3	2	1
This reach has good play spots.	(5)	4	3	2	1
This reach offers good overall whitewater challenge	(5)	4	3	2	1
The portages on this Reach are acceptable/usable.	(5)	4	3	2	1
This is a safe run.	(5)	4	3	2	1
This run is a good length.	(5)	4	3	2	1
This is an aesthetically pleasing run.	(5)	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	2	
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Ledge	4	No
Boogie water	3	No

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

NO

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

NO

BOATER NAME: BRIAN CASTILLO

Whitewater Boater Run Evaluation Form
Reach 3 – Center Drive Bridge to Kimball Town Park for Run # 2

Date of run: _____

Target flow: 1200 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** ?

Take-Out Location: Center Drive **Take-Out Time:** 3:35 P

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: III - IV

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

Much Higher	☐	
Higher	☐	x I WOULD DEFINITELY
Optimum	☒	BE INTERESTED TO GET IN
Lower	☐	@ 1400-1600 ON THIS
Much Lower	☐	STRETCH

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	(5)	4	3	2	1
This reach is boatable at this flow.	(5)	4	3	2	1
This reach has nice water features (waves, holes, drops).	(5)	4	3	2	1
This reach has good play spots.	5	(4)	3	2	1
This reach offers good overall whitewater challenge	(5)	4	3	2	1
The portages on this Reach are acceptable/usable.	(5)	4	3	2	1
This is a safe run.	5	(4)	3	2	1
This run is a good length.	(5)	4	3	2	1
This is an aesthetically pleasing run.	(5)	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	2	THOUGHT IT WAS PADDED
I was *stopped* after hitting rocks or other obstacles.		
I had to *get out* to drag or pull my boat off rocks or other obstacles.		
I had to *portage* around unrunnable rapids, log jams, or other obstacles.		

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
1ST DROP	III	
2ND DROP FLOWS OVER LEDGE & THEN KICKS RIGHT	III	
BOOGIE H2O Redd d RUN	III	
KINDALL (A) TO (B) - THEN (2) TO (1)	IV	

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

FAIRLY CONTINUOUS SECTION SO FOLKS NEED TO HAVE SOLID SKILLS & WATER READING / RESCUE ABILITIES. IF SOME ONE SWAM - THEY'D BE IN THE WATER A WHILE

BOATER NAME: Tim Kordecki

Whitewater Boater Run Evaluation Form
Reach 3 – Center Drive Bridge to Kimball Town Park for Run # 2

Date of run: 6/11

Target flow: 1200 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. (Hard shell kayak)
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** _____

Take-Out Location: Center Drive **Take-Out Time:** _____

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: III – IV

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☐
- Optimum ☑
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	(5)	4	3	2	1
This reach is boatable at this flow.	(5)	4	3	2	1
This reach has nice water features (waves, holes, drops).	(5)	4	3	2	1
This reach has good play spots.	5	4	(3)	2	1
This reach offers good overall whitewater challenge	(5)	4	3	2	1
The portages on this Reach are acceptable/usable.	(5)	4	3	2	1
This is a safe run.	(5)	4	3	2	1
This run is a good length.	(5)	4	3	2	1
This is an aesthetically pleasing run.	(5)	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.		
I was *stopped* after hitting rocks or other obstacles.		
I had to *get out* to drag or pull my boat off rocks or other obstacles.		
I had to *portage* around unrunnable rapids, log jams, or other obstacles.		

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Kimball Falls	III+	NO

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

At about 1500 cfs the bridge at Kimball Falls becomes a concern.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

BOATER NAME: Brian Krueger

Whitewater Boater Run Evaluation Form
Reach 3 – Center Drive Bridge to Kimball Town Park for Run # 2

Date of run: 6/11/22

Target flow: 1200 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. (Hard shell kayak)
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** _____

Take-Out Location: Center Drive **Take-Out Time:** _____

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, (III, IV) or V):

Class: III - IV

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☐
- Optimum ☒
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	(5)	4	3	2	1
This reach is boatable at this flow.	(5)	4	3	2	1
This reach has nice water features (waves, holes, drops).	(5)	4	3	2	1
This reach has good play spots.	5	4	3	(2)	1
This reach offers good overall whitewater challenge	5	(4)	3	2	1
The portages on this Reach are acceptable/usable.	5	4	(3)	2	1
This is a safe run.	5	(4)	3	2	1
This run is a good length.	(5)	4	3	2	1
This is an aesthetically pleasing run.	(5)	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	3	rocks were harder
I was *stopped* after hitting rocks or other obstacles.		to see in order
I had to *get out* to drag or pull my boat off rocks or other obstacles.		to avoid
I had to *portage* around unrunnable rapids, log jams, or other obstacles.		

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, (III), IV, V)	Portage (Yes or No)
All good. Kimball is a great finish.		

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

great run. would come back

BOATER NAME: TONY LOCKEN

Whitewater Boater Run Evaluation Form
Reach 3 – Center Drive Bridge to Kimball Town Park for Run # 2

Date of run: 17 JUN 22

Target flow: 1200 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** _____

Take-Out Location: Center Drive **Take-Out Time:** _____

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: III

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☒
- Optimum ☐
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	(5)	4	3	2	1
This reach is boatable at this flow.	(5)	4	3	2	1
This reach has nice water features (waves, holes, drops).	(5)	4	3	2	1
This reach has good play spots.	5	4	3	(2)	1
This reach offers good overall whitewater challenge	(5)	4	3	2	1
The portages on this Reach are acceptable/usable.	(5)	4	3	2	1
This is a safe run.	(5)	4	3	2	1
This run is a good length.	(5)	4	3	2	1
This is an aesthetically pleasing run.	(5)	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	9	
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Kimball falls	II	No

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

BOATER NAME: Brian Robin

Whitewater Boater Run Evaluation Form
Reach 3 – Center Drive Bridge to Kimball Town Park for Run # 2

Date of run: 6.11.22

Target flow: 1210 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** _____

Take-Out Location: Center Drive **Take-Out Time:** _____

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: III

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☑
- Optimum ☐
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	(5)	4	3	2	1
This reach is boatable at this flow.	(5)	4	3	2	1
This reach has nice water features (waves, holes, drops).	(5)	4	3	2	1
This reach has good play spots.	5	4	(3)	2	1
This reach offers good overall whitewater challenge	(5)	4	3	2	1
The portages on this Reach are acceptable/usable.	(5)	4	3	2	1
This is a safe run.	(5)	4	3	2	1
This run is a good length.	(5)	4	3	2	1
This is an aesthetically pleasing run.	(5)	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	8	Manageable
I was *stopped* after hitting rocks or other obstacles.		
I had to *get out* to drag or pull my boat off rocks or other obstacles.		
I had to *portage* around unrunnable rapids, log jams, or other obstacles.		

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Kimball Falls	III	NO

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

No safety issues

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

Kimball Falls is a great spot to hang out, eat food. Can do laps on the rapid at park. Did 4 laps after we finished.

BOATER NAME: Nathan S.

Whitewater Boater Run Evaluation Form
Reach 3 – Center Drive Bridge to Kimball Town Park for Run # 2

Date of run: 6/11/22

Target flow: 1200 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. (Hard shell kayak) — d. Canoe (open)
b. Inflatable kayak — e. Raft, length: _____
c. Canoe (closed) — f. Other _____

Put-In Location: South Drive **Put-In Time:** _____

Take-Out Location: Center Drive **Take-Out Time:** _____

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: IV

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☐
- Optimum ☒
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	(5)	4	3	2	1
This reach is boatable at this flow.	(5)	4	3	2	1
This reach has nice water features (waves, holes, drops).	(5)	4	3	2	1
This reach has good play spots.	5	(4)	3	2	1
This reach offers good overall whitewater challenge	(5)	4	3	2	1
The portages on this Reach are acceptable/usable.	(5)	4	3	2	1
This is a safe run.	5	(4)	3	2	1
This run is a good length.	(5)	4	3	2	1
This is an aesthetically pleasing run.	(5)	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	0	
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Kimball falls	IV	no

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

BOATER NAME: Kayla Sturgeon

Whitewater Boater Run Evaluation Form
Reach 3 – Center Drive Bridge to Kimball Town Park for Run # 2

Date of run: _____

Target flow: 1200 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** _____

Take-Out Location: Center Drive **Take-Out Time:** _____

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: III - IV

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☐
- Optimum ☒
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	5	4	3	2	1
This reach is boatable at this flow.	5	4	3	2	1
This reach has nice water features (waves, holes, drops).	5	4	3	2	1
This reach has good play spots.	5	4	3	2	1
This reach offers good overall whitewater challenge	5	4	3	2	1
The portages on this Reach are acceptable/usable.	5	4	3	2	1
This is a safe run.	5	4	3	2	1
This run is a good length.	5	4	3	2	1
This is an aesthetically pleasing run.	5	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	0	
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Kimball Falls	IV -	N

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
N - but if did, would be easy b/c of boat access	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

No - overhang branches easily avoidable

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

Kimball Falls a good "chuck & huck" aka carry back up & re-run, b/c of ~~~~ park access. Good car & trailer access / parking. Nice nearby landowners.

Intimidating end rapid, but very friendly.

Overall, holes were flushy.

BOATER NAME: MATT Stuber

Whitewater Boater Run Evaluation Form
Reach 3 – Center Drive Bridge to Kimball Town Park for Run # 2

Date of run: 6/11/22

Target flow: 1200 cfs.

What type of craft did you use for this run (circle or put a check next to one):

a. Hard shell kayak
b. Inflatable kayak
c. Canoe (closed)
d. Canoe (open)
e. Raft, length: _____
f. Other _____

Put-In Location: South Drive **Put-In Time:** _____

Take-Out Location: Center Drive **Take-Out Time:** _____

Difficulty

How would you rate the whitewater difficulty on this reach (Class I, II, III, IV, or V):

Class: 3

Enjoyment (relative to the flow of this run)

Would you prefer a flow that was higher, lower, or was this the optimum flow? (check one)

- Much Higher ☐
- Higher ☐
- Optimum ☑ Great level
- Lower ☐
- Much Lower ☐

Satisfaction

Please rate each statement about the characteristics of this run at this flow. (circle one)

Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
I am likely to return for future boating if the *flow for this run* were to be provided.	(5)	4	3	2	1
This reach is boatable at this flow.	(5)	4	3	2	1
This reach has nice water features (waves, holes, drops).	(5)	4	3	2	1
This reach has good play spots.	5	4	(3)	2	1
This reach offers good overall whitewater challenge	(5)	4	3	2	1
The portages on this Reach are acceptable/usable.	(5)	4	3	2	1
This is a safe run.	(5)	4	3	2	1
This run is a good length.	(5)	4	3	2	1
This is an aesthetically pleasing run.	(5)	4	3	2	1

Boatability

Please estimate the number of hits, stops, boat drags, and/or portages you had on this run.

Statement	Number of Times	Comments, if any
I *hit* rocks or other obstacles but did not stop.	3	Not Really an Issue
I was *stopped* after hitting rocks or other obstacles.	0	
I had to *get out* to drag or pull my boat off rocks or other obstacles.	0	
I had to *portage* around unrunnable rapids, log jams, or other obstacles.	0	

Challenges

Please identify particularly challenging rapids/sections and rate their difficulty at this flow using the International Whitewater Scale. Also note if you portaged any of these rapids/sections.

Location of Rapids/Sections (name, coordinates, description)	Difficulty Rating (Class I, II, III, IV, V)	Portage (Yes or No)
Water to Falls	2	No
Falls	3+	No

Portages

If you portaged, please rate the difficulty of the portage with your craft at this flow.

Portage Location:	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	4	3	2	1
	4	3	2	1
	4	3	2	1

Safety

Did you observe or experience any significant safety issues on this run such as swims, pins, wrapped boats, hang ups, holes, manmade obstacles, strainers, undercuts, or others?

If yes, please explain below.

Comments/Observations

If needed, use the space below to provide any additional comments or observations on this run.

At 1200 The Fall are Great and Safe Due to The Flowing At The Bottom

Appendix R Level 3 Assessment – Completed Whitewater Study Boater Evaluation Forms for Overall Experience

BOATER NAME: Ben Bjorkman

Whitewater Boater Evaluation Form
Overall Experience for Entire Reach - Gile Dam to Kimball Town Park

Flow Levels: please answer the following based on your boating trips at various flows.

Statement – for entire Reach	Flow (cfs)
What flow *range* provides the optimal whitewater boating experience	1200
What is the highest safe flow for your skill level and preferred craft	UNK
What is the optimal flow for a "standard" trip	900-1200
What is the optimal flow for a "high challenge" trip	UNK
If *one flow* was released for boating, what would be your optimal flow	1200

Boating Experience:

Are you likely to return for future boating if your optimal flow choice was provided? (check one)

Absolutely [X] Probably [ ] Maybe [ ] No [ ]

If you would return for boating, what months would you choose to return? (check all that apply)

Apr [ ] Jun [ ] Aug [ ] Oct [ ]
May [ ] July [ ] Sep [ ] Nov [ ]

Would the flows provided today be suitable for beginner/novice boaters? (check one)

Absolutely [ ] Probably [ ] Maybe [ ] No [ ]

If so, what flow level(s) would be appropriate for this skill level: 900 cfs

Were any of the flows provided today suitable for play boating? (check one)

Absolutely [ ] Some were [ ] Not really [ ] No [ ]

If so, what flow level(s) were suitable: 600-1200 cfs

Flow Information:

How do you prefer to receive flow information? (check all that apply)

Email notification ☐
Website information ☐
Call number with recording ☒
Other: _____

Other Whitewater Boating Opportunities:

Is there another whitewater boating opportunity in the area that is preferable to this Reach?

Yes ☐
No ☒

If yes:

- What is the name/location of the preferable opportunity: _____
- What is the difficulty class of the preferable opportunity: _____
- Is the preferable opportunity more challenging than your experience today: _____
- Does the preferable opportunity have more potential for boatability than today: _____

Hypothetical Flow Releases

Please provide an overall evaluation for the flow ranges available on this Reach based on your experiences and preferences today. Consider all flow-dependent characteristics that contribute to a high quality boating trip, such as boatability, challenge, play areas, safety, aesthetics, and length of run. If you do not feel comfortable evaluating a flow you have not boated or seen, leave that flow blank.

Would the following flow releases (cfs) create a high quality boating experience on this Reach: (circle your rating for each flow value)

Rating	400 cfs	600 cfs	800 cfs	1,000 cfs	1,100 cfs	1,300 cfs	1,500 cfs	1,700 cfs	2,000 cfs	2,500 cfs
Acceptable	5	5	5	5	5	5	5	5	5	5
Marginal	3	3	3	3	3	3	3	3	3	3
Unacceptable	1	1	1	1	1	1	1	1	1	1

BOATER NAME: Jason Blankenheim

Whitewater Boater Evaluation Form
Overall Experience for Entire Reach - Gile Dam to Kimball Town Park

Flow Levels: please answer the following based on your boating trips at various flows.

Statement – for entire Reach	Flow (cfs)
What flow *range* provides the optimal whitewater boating experience	1000-1200
What is the highest safe flow for your skill level and preferred craft	1200
What is the optimal flow for a "standard" trip	600-700
What is the optimal flow for a "high challenge" trip	1200
If *one flow* was released for boating, what would be your optimal flow	800

Boating Experience:

Are you likely to return for future boating if your optimal flow choice was provided? (check one)

Absolutely ☐ Probably ☑ Maybe ☐ No ☐

If you would return for boating, what months would you choose to return? (check all that apply)

Apr ☐ Jun ☑ Aug ☑ Oct ☐
May ☑ July ☑ Sep ☑ Nov ☐

Would the flows provided today be suitable for beginner/novice boaters? (check one)

Absolutely ☐ Probably ☐ Maybe ☐ No ☑

If so, what flow level(s) would be appropriate for this skill level: 0 cfs
novice shouldn't be on this run

Were any of the flows provided today suitable for play boating? (check one)

Absolutely ☐ Some were ☑ Not really ☐ No ☐

If so, what flow level(s) were suitable: both cfs

Flow Information:

How do you prefer to receive flow information? (check all that apply)

Email notification ☐
Website information ☑
Call number with recording ☐
Other: _____

Other Whitewater Boating Opportunities:

Is there another whitewater boating opportunity in the area that is preferable to this Reach?

Yes ☐
No ☑

If yes:

- What is the name/location of the preferable opportunity: _____
- What is the difficulty class of the preferable opportunity: _____
- Is the preferable opportunity more challenging than your experience today: _____
- Does the preferable opportunity have more potential for boatability than today: _____

Hypothetical Flow Releases

Please provide an overall evaluation for the flow ranges available on this Reach based on your experiences and preferences today. Consider all flow-dependent characteristics that contribute to a high quality boating trip, such as boatability, challenge, play areas, safety, aesthetics, and length of run. If you do not feel comfortable evaluating a flow you have not boated or seen, leave that flow blank.

Would the following flow releases (cfs) create a high quality boating experience on this Reach: (circle your rating for each flow value)

Rating	400 cfs	600 cfs	800 cfs	1,000 cfs	1,100 cfs	1,300 cfs	1,500 cfs	1,700 cfs	2,000 cfs	2,500 cfs
Acceptable	5	(5)	(5)	(5)	(5)	5	5	5	5	5
Marginal	3	3	3	3	3	(3)	(3)	3	3	3
Unacceptable	(1)	1	1	1	1	1	1	(1)	(1)	(1)

BOATER NAME: BRIAN CASTILLO

Whitewater Boater Evaluation Form
Overall Experience for Entire Reach - Gile Dam to Kimball Town Park

Flow Levels: please answer the following based on your boating trips at various flows.

Statement – for entire Reach	Flow (cfs)
What flow *range* provides the optimal whitewater boating experience	700 - 1200
What is the highest safe flow for your skill level and preferred craft	1600
What is the optimal flow for a "standard" trip	800
What is the optimal flow for a "high challenge" trip	1400
If *one flow* was released for boating, what would be your optimal flow	1000

Boating Experience:

Are you likely to return for future boating if your optimal flow choice was provided? (check one)

Absolutely [✓] Probably [ ] Maybe [ ] No [ ]

If you would return for boating, what months would you choose to return? (check all that apply)

Apr [ ] Jun [X] Aug [X] Oct [X]
May [ ] July [X] Sep [X] Nov [ ]

Would the flows provided today be suitable for beginner/novice boaters? (check one)

Absolutely [ ] Probably [ ] Maybe [X] No [ ]

If so, what flow level(s) would be appropriate for this skill level: 600 - 750 cfs

Were any of the flows provided today suitable for play boating? (check one)

Absolutely [ ] Some were [X] Not really [ ] No [ ]

If so, what flow level(s) were suitable: 800 - 1120 cfs

Flow Information:

How do you prefer to receive flow information? (check all that apply)

Email notification ☐
Website information ☑
Call number with recording ☑
Other: HAVING A GAUGE on AMERICAN WHITEWATER

Other Whitewater Boating Opportunities:

Is there another whitewater boating opportunity in the area that is preferable to this Reach?

Yes ☑
No ☐

If yes:

- What is the name/location of the preferable opportunity: MONTREAL CANYON
- What is the difficulty class of the preferable opportunity: III +
- Is the preferable opportunity more challenging than your experience today: NO
- Does the preferable opportunity have more potential for boatability than today: YES

Hypothetical Flow Releases

Please provide an overall evaluation for the flow ranges available on this Reach based on your experiences and preferences today. Consider all flow-dependent characteristics that contribute to a high quality boating trip, such as boatability, challenge, play areas, safety, aesthetics, and length of run. If you do not feel comfortable evaluating a flow you have not boated or seen, leave that flow blank.

Would the following flow releases (cfs) create a high quality boating experience on this Reach: (circle your rating for each flow value)

Rating	400 cfs	600 cfs	800 cfs	1,000 cfs	1,100 cfs	1,300 cfs	1,500 cfs	1,700 cfs	2,000 cfs	2,500 cfs
Acceptable	5	5	(5)	(5)	(5)	(5)	(5)	5	5	5
Marginal	(3)	(3)	3	3	3	3	3	(3)	3	3
Unacceptable	1	1	1	1	1	1	1	1	(1)	(1)

BOATER NAME: Tim Kordecki

Whitewater Boater Evaluation Form
Overall Experience for Entire Reach - Gile Dam to Kimball Town Park

Flow Levels: please answer the following based on your boating trips at various flows.

Statement – for entire Reach	Flow (cfs)
What flow *range* provides the optimal whitewater boating experience	
What is the highest safe flow for your skill level and preferred craft	2500
What is the optimal flow for a "standard" trip	900
What is the optimal flow for a "high challenge" trip	1100-1500
If *one flow* was released for boating, what would be your optimal flow	1000

Boating Experience:

Are you likely to return for future boating if your optimal flow choice was provided? (check one)

Absolutely [✓] Probably [ ] Maybe [ ] No [ ]

If you would return for boating, what months would you choose to return? (check all that apply)

Apr [✓] Jun [✓] Aug [✓] Oct [✓]
May [✓] July [✓] Sep [✓] Nov [✓]

Would the flows provided today be suitable for beginner/novice boaters? (check one)

Absolutely [ ] Probably [ ] Maybe [✓] No [ ]

If so, what flow level(s) would be appropriate for this skill level: 400 cfs

Were any of the flows provided today suitable for play boating? (check one)

Absolutely [ ] Some were [✓] Not really [ ] No [ ]

If so, what flow level(s) were suitable: 700 cfs

Flow Information:

How do you prefer to receive flow information? (check all that apply)

Email notification ☐
Website information ☑
Call number with recording ☑
Other: _____

Other Whitewater Boating Opportunities:

Is there another whitewater boating opportunity in the area that is preferable to this Reach?

Yes ☐
No ☑

If yes:

- What is the name/location of the preferable opportunity: _____
- What is the difficulty class of the preferable opportunity: _____
- Is the preferable opportunity more challenging than your experience today: _____
- Does the preferable opportunity have more potential for boatability than today: _____

Hypothetical Flow Releases

Please provide an overall evaluation for the flow ranges available on this Reach based on your experiences and preferences today. Consider all flow-dependent characteristics that contribute to a high quality boating trip, such as boatability, challenge, play areas, safety, aesthetics, and length of run. If you do not feel comfortable evaluating a flow you have not boated or seen, leave that flow blank.

Would the following flow releases (cfs) create a high quality boating experience on this Reach: (circle your rating for each flow value)

Rating	400 cfs	600 cfs	800 cfs	1,000 cfs	1,100 cfs	1,300 cfs	1,500 cfs	1,700 cfs	2,000 cfs	2,500 cfs
Acceptable	5	(5)	(5)	(5)	(5)	(5)	(5)	5	5	5
Marginal	(3)	3	3	3	3	3	3	(3)	(3)	(3)
Unacceptable	1	1	1	1	1	1	1	1	1	1

BOATER NAME: Brian Krueger

Whitewater Boater Evaluation Form
Overall Experience for Entire Reach - Gile Dam to Kimball Town Park

Flow Levels: please answer the following based on your boating trips at various flows.

Statement – for entire Reach	Flow (cfs)
What flow *range* provides the optimal whitewater boating experience	above 600
What is the highest safe flow for your skill level and preferred craft	?
What is the optimal flow for a "standard" trip	800 – 1200 ?
What is the optimal flow for a "high challenge" trip	1200 +
If *one flow* was released for boating, what would be your optimal flow	1000 +

Boating Experience:

Are you likely to return for future boating if your optimal flow choice was provided? (check one)

Absolutely [✓] Probably [ ] Maybe [ ] No [ ]

If you would return for boating, what months would you choose to return? (check all that apply)

Apr [ ] Jun [X] Aug [X] Oct [ ]
May [ ] July [X] Sep [ ] Nov [ ]

Would the flows provided today be suitable for beginner/novice boaters? (check one)

Absolutely [ ] Probably [ ] Maybe [ ] No [X]

If so, what flow level(s) would be appropriate for this skill level: don't know rapids are very long and a swim would make for a bad day cfs

Were any of the flows provided today suitable for play boating? (check one)

Absolutely [ ] Some were [ ] Not really [ ] No [X]

If so, what flow level(s) were suitable: _____ cfs

Flow Information:

How do you prefer to receive flow information? (check all that apply)

Email notification [X]

Website information [X]

Call number with recording [X]

Other: _____

Other Whitewater Boating Opportunities:

Is there another whitewater boating opportunity in the area that is preferable to this Reach?

Yes [ ] Each nearby run has a diffrent character.

No [ ] It all comes down to levels of the nearby runs.

If yes:

- What is the name/location of the preferable opportunity: _____
- What is the difficulty class of the preferable opportunity: _____
- Is the preferable opportunity more challenging than your experience today: _____
- Does the preferable opportunity have more potential for boatability than today: _____

Hypothetical Flow Releases

Please provide an overall evaluation for the flow ranges available on this Reach based on your experiences and preferences today. Consider all flow-dependent characteristics that contribute to a high quality boating trip, such as boatability, challenge, play areas, safety, aesthetics, and length of run. If you do not feel comfortable evaluating a flow you have not boated or seen, leave that flow blank.

Would the following flow releases (cfs) create a high quality boating experience on this Reach: (circle your rating for each flow value)

Rating	400 cfs	600 cfs	800 cfs	1,000 cfs	1,100 cfs	1,300 cfs	1,500 cfs	1,700 cfs	2,000 cfs	2,500 cfs
Acceptable	5	~~5~~	(5)	(5)	(5)	5	5	5	5	5
Marginal	(3)	(3)	3	3	3	3	3	3	3	3
Unacceptable	1	1	1	1	1	1	1	1	1	1

BOATER NAME: Tony Lacken

Whitewater Boater Evaluation Form
Overall Experience for Entire Reach - Gile Dam to Kimball Town Park

Flow Levels: please answer the following based on your boating trips at various flows.

Statement – for entire Reach	Flow (cfs)
What flow *range* provides the optimal whitewater boating experience	3,000
What is the highest safe flow for your skill level and preferred craft	3,000
What is the optimal flow for a "standard" trip	1,500
What is the optimal flow for a "high challenge" trip	5,000
If *one flow* was released for boating, what would be your optimal flow	2,000

Boating Experience:

Are you likely to return for future boating if your optimal flow choice was provided? (check one)

Absolutely [X] Probably [ ] Maybe [ ] No [ ]

If you would return for boating, what months would you choose to return? (check all that apply)

Apr [ ] Jun [X] Aug [X] Oct [X]
May [ ] July [X] Sep [X] Nov [ ]

Would the flows provided today be suitable for beginner/novice boaters? (check one)

Absolutely [X] Probably [ ] Maybe [ ] No [ ]

If so, what flow level(s) would be appropriate for this skill level: 1500 cfs

Were any of the flows provided today suitable for play boating? (check one)

Absolutely [ ] Some were [ ] Not really [X] No [ ]

If so, what flow level(s) were suitable: 1500 cfs

Flow Information:

How do you prefer to receive flow information? (check all that apply)

Email notification ☐
Website information ☒
Call number with recording ☐
Other: _____

Other Whitewater Boating Opportunities:

Is there another whitewater boating opportunity in the area that is preferable to this Reach?

Yes ☒
No ☐

If yes:

- What is the name/location of the preferable opportunity: Black
- What is the difficulty class of the preferable opportunity: V, IV
- Is the preferable opportunity more challenging than your experience today: yes
- Does the preferable opportunity have more potential for boatability than today: yes

Hypothetical Flow Releases

Please provide an overall evaluation for the flow ranges available on this Reach based on your experiences and preferences today. Consider all flow-dependent characteristics that contribute to a high quality boating trip, such as boatability, challenge, play areas, safety, aesthetics, and length of run. If you do not feel comfortable evaluating a flow you have not boated or seen, leave that flow blank.

Would the following flow releases (cfs) create a high quality boating experience on this Reach: (circle your rating for each flow value)

Rating	400 cfs	600 cfs	800 cfs	1,000 cfs	1,100 cfs	1,300 cfs	1,500 cfs	1,700 cfs	2,000 cfs	2,500 cfs
Acceptable	5	5	5	5	5	5	5	5	5	5
Marginal	3	3	3	3	3	3	3	3	3	3
Unacceptable	1	1	1	1	1	1	1	1	1	1

BOATER NAME: BRIAN ROBIN

Whitewater Boater Evaluation Form
Overall Experience for Entire Reach - Gile Dam to Kimball Town Park

Flow Levels: please answer the following based on your boating trips at various flows.

Statement – for entire Reach	Flow (cfs)
What flow *range* provides the optimal whitewater boating experience	2000
What is the highest safe flow for your skill level and preferred craft	unknown, to be determined
What is the optimal flow for a "standard" trip	1500
What is the optimal flow for a "high challenge" trip	3500+
If *one flow* was released for boating, what would be your optimal flow	1500

Boating Experience:

Are you likely to return for future boating if your optimal flow choice was provided? (check one)

Absolutely [X] Probably [ ] Maybe [ ] No [ ]

If you would return for boating, what months would you choose to return? (check all that apply)

Apr [ ] Jun [X] Aug [X] Oct [ ]
May [ ] July [X] Sep [X] Nov [ ]

Would the flows provided today be suitable for beginner/novice boaters? (check one)

Absolutely [X] Probably [ ] Maybe [ ] No [ ]

→ Note, below gile falls to canyon

If so, what flow level(s) would be appropriate for this skill level: 1500 cfs

Were any of the flows provided today suitable for play boating? (check one)

Absolutely [ ] Some were [ ] Not really [X] No [ ]

If so, what flow level(s) were suitable: Not a river for play boating, shallow at 1700, cfs

Flow Information:

How do you prefer to receive flow information? (check all that apply)

Email notification ☑
Website information ☑
Call number with recording ☐
Other: _____

Other Whitewater Boating Opportunities:

Is there another whitewater boating opportunity in the area that is preferable to this Reach?

Yes ☑
No ☐

If yes:

- What is the name/location of the preferable opportunity: Black River, Presque River
- What is the difficulty class of the preferable opportunity: V , IV-V
- Is the preferable opportunity more challenging than your experience today: Yes
- Does the preferable opportunity have more potential for boatability than today: no

Hypothetical Flow Releases

Please provide an overall evaluation for the flow ranges available on this Reach based on your experiences and preferences today. Consider all flow-dependent characteristics that contribute to a high quality boating trip, such as boatability, challenge, play areas, safety, aesthetics, and length of run. If you do not feel comfortable evaluating a flow you have not boated or seen, leave that flow blank.

Would the following flow releases (cfs) create a high quality boating experience on this Reach: (circle your rating for each flow value)

Rating	400 cfs	600 cfs	800 cfs	1,000 cfs	1,100 cfs	1,300 cfs	1,500 cfs	1,700 cfs	2,000 cfs	2,500 cfs
Acceptable	5	5	5	5	5	(5)	(5)	(5)	(5)	(5)
Marginal	3	3	(3)	(3)	(3)	3	3	3	3	3
Unacceptable	(1)	(1)	1	1	1	1	1	1	1	1

BOATER NAME: Nathan S.

Whitewater Boater Evaluation Form
Overall Experience for Entire Reach - Gile Dam to Kimball Town Park

Flow Levels: please answer the following based on your boating trips at various flows.

Statement – for entire Reach	Flow (cfs)
What flow *range* provides the optimal whitewater boating experience	800-1000 - 1200+ Skid Gile falls
What is the highest safe flow for your skill level and preferred craft	1300
What is the optimal flow for a "standard" trip	1200
What is the optimal flow for a "high challenge" trip	1600+
If *one flow* was released for boating, what would be your optimal flow	1300

Boating Experience:

Are you likely to return for future boating if your optimal flow choice was provided? (check one)

Absolutely [X] Probably [ ] Maybe [ ] No [ ]

If you would return for boating, what months would you choose to return? (check all that apply)

Apr [ ] Jun [X] Aug [X] Oct [X]
May [X] July [X] Sep [X] Nov [ ]

Would the flows provided today be suitable for beginner/novice boaters? (check one)

Absolutely [ ] Probably [ ] Maybe [ ] No [X]

If so, what flow level(s) would be appropriate for this skill level: 600-800 cfs

Were any of the flows provided today suitable for play boating? (check one)

Absolutely [X] Some were [ ] Not really [ ] No [ ]

If so, what flow level(s) were suitable: 1200 cfs

Flow Information:

How do you prefer to receive flow information? (check all that apply)

Email notification ☐
Website information ☒
Call number with recording ☒
Other: _____

Other Whitewater Boating Opportunities:

Is there another whitewater boating opportunity in the area that is preferable to this Reach?

Yes ☐
No ☐

If yes:

- What is the name/location of the preferable opportunity: _____
- What is the difficulty class of the preferable opportunity: _____
- Is the preferable opportunity more challenging than your experience today: _____
- Does the preferable opportunity have more potential for boatability than today: _____

Hypothetical Flow Releases

Please provide an overall evaluation for the flow ranges available on this Reach based on your experiences and preferences today. Consider all flow-dependent characteristics that contribute to a high quality boating trip, such as boatability, challenge, play areas, safety, aesthetics, and length of run. If you do not feel comfortable evaluating a flow you have not boated or seen, leave that flow blank.

Would the following flow releases (cfs) create a high quality boating experience on this Reach: (circle your rating for each flow value)

Rating	400 cfs	600 cfs	800 cfs	1,000 cfs	1,100 cfs	1,300 cfs	1,500 cfs	1,700 cfs	2,000 cfs	2,500 cfs
Acceptable	5	5	(5)	(5)	(5)	(5)	(5)	5	5	5
Marginal	3	(3)	3	3	3	3	3	3	3	3
Unacceptable	(1)	1	1	1	1	1	1	1	1	1

BOATER NAME: Kayla Sturgeon

Whitewater Boater Evaluation Form
Overall Experience for Entire Reach - Gile Dam to Kimball Town Park

Flow Levels: please answer the following based on your boating trips at various flows.

Statement – for entire Reach	Flow (cfs)
What flow *range* provides the optimal whitewater boating experience	1000-1200 cfs
What is the highest safe flow for your skill level and preferred craft	Unknown. 1200 was perfect fine,
What is the optimal flow for a "standard" trip	1000-1200 cfs
What is the optimal flow for a "high challenge" trip	More than 1200?
If *one flow* was released for boating, what would be your optimal flow	1200 b/c I've only run it today. 1200 was amazing

Boating Experience:

Are you likely to return for future boating if your optimal flow choice was provided? (check one)

Absolutely [X] Probably [ ] Maybe [ ] No [ ]

If you would return for boating, what months would you choose to return? (check all that apply)

Apr [X] Jun [X] Aug [X] Oct [X]
May [X] July [X] Sep [X] Nov [X]

Coordination w/ other whitewater events in the Midwest would be key. Some weekends as Wausau, St Louis releases (esp Paddlemania), & Charles City Challenge would not have as high attendance.

Would the flows provided today be suitable for beginner/novice boaters? (check one)

Absolutely [ ] Probably [ ] Maybe [ ] No [X]

If so, what flow level(s) would be appropriate for this skill level: _____ cfs

Int w/ a roll

Were any of the flows provided today suitable for play boating? (check one)

Absolutely [ ] Some were [ ] Not really [X] No [ ]

If so, what flow level(s) were suitable: _____ cfs

Good for a 1/2 slice

A confident boater could do 1200 in

Flow Information:

How do you prefer to receive flow information? (check all that apply)

Email notification ☐

Website information ☒

Call number with recording ☐

Other: AW (Facebook / American Whitewater) though will look on a utility company website if necessary.

Other Whitewater Boating Opportunities:

Is there another whitewater boating opportunity in the area that is preferable to this Reach?

Yes ☐

No ☒

If yes:

- What is the name/location of the preferable opportunity: _____
- What is the difficulty class of the preferable opportunity: _____
- Is the preferable opportunity more challenging than your experience today: _____
- Does the preferable opportunity have more potential for boatability than today: _____

Hypothetical Flow Releases

Please provide an overall evaluation for the flow ranges available on this Reach based on your experiences and preferences today. Consider all flow-dependent characteristics that contribute to a high quality boating trip, such as boatability, challenge, play areas, safety, aesthetics, and length of run. If you do not feel comfortable evaluating a flow you have not boated or seen, leave that flow blank.

Would the following flow releases (cfs) create a high quality boating experience on this Reach: (circle your rating for each flow value)

Rating	400 cfs	600 cfs	800 cfs	1,000 cfs	1,100 cfs	1,300 cfs	1,500 cfs	1,700 cfs	2,000 cfs	2,500 cfs
Acceptable	5	5	5	(5)	(5)	(5)	5	5	5	5
Marginal	3	3	(3)	3	3	3	3	3	3	3
Unacceptable	(1)	(1)	1	1	1	1	1	1	1	1

600 cfs would not get me to drive to run this, maybe even Unknown. Few yrs. long a T... it def... back Cr...

BOATER NAME: Matt Stegeman

Whitewater Boater Evaluation Form
Overall Experience for Entire Reach - Gile Dam to Kimball Town Park

Flow Levels: please answer the following based on your boating trips at various flows.

Statement – for entire Reach	Flow (cfs)
What flow *range* provides the optimal whitewater boating experience	1200
What is the highest safe flow for your skill level and preferred craft	2000+ Bridge Issue
What is the optimal flow for a "standard" trip	
What is the optimal flow for a "high challenge" trip	
If *one flow* was released for boating, what would be your optimal flow	

Boating Experience:

Are you likely to return for future boating if your optimal flow choice was provided? (check one)

Absolutely [✓] Probably [ ] Maybe [ ] No [ ]

If you would return for boating, what months would you choose to return? (check all that apply)

Apr [ ] Jun [✓] Aug [✓] Oct [ ]
May [ ] July [✓] Sep [✓] Nov [ ]

Would the flows provided today be suitable for beginner/novice boaters? (check one)

Absolutely [ ] Probably [✓] Maybe [ ] No [ ]

If so, what flow level(s) would be appropriate for this skill level: 800-1000 cfs

Were any of the flows provided today suitable for play boating? (check one)

Absolutely [ ] Some were [ ] Not really [✓] No [ ]

If so, what flow level(s) were suitable: _____ cfs

Flow Information:

How do you prefer to receive flow information? (check all that apply)

Email notification ☑
Website information ☑
Call number with recording ☐
Other: _____

Other Whitewater Boating Opportunities:

Is there another whitewater boating opportunity in the area that is preferable to this Reach?

Yes ☐
No ☑ Not that I am aware (Wausau Maybe but it's flat water)

If yes:

- What is the name/location of the preferable opportunity: _____
- What is the difficulty class of the preferable opportunity: _____
- Is the preferable opportunity more challenging than your experience today: _____
- Does the preferable opportunity have more potential for boatability than today: _____

Hypothetical Flow Releases

Please provide an overall evaluation for the flow ranges available on this Reach based on your experiences and preferences today. Consider all flow-dependent characteristics that contribute to a high quality boating trip, such as boatability, challenge, play areas, safety, aesthetics, and length of run. If you do not feel comfortable evaluating a flow you have not boated or seen, leave that flow blank.

Would the following flow releases (cfs) create a high quality boating experience on this Reach: (circle your rating for each flow value)

Rating	400 cfs	600 cfs	800 cfs	1,000 cfs	1,100 cfs	1,300 cfs	1,500 cfs	1,700 cfs	2,000 cfs	2,500 cfs
Acceptable	5	5	(5)	(5)	5	5	5	5	5	5
Marginal	3	(3)	3	3	3	3	3	3	3	3
Unacceptable	(1)	1	1	1	1	1	1	1	1	1

Appendix S Level 3 Assessment – Photo Documentation

Level 3 Assessment – Whitewater Recreation Study Photo Documentation, June 11, 2022

Put-in at Gile Dam, prior to Study at 600 cfs

Start of Reach 1 – Directly downstream of Gile Dam at 600 cfs

End of Reach 1 – Upstream of South Drive bridge at 600 cfs

Boaters approaching South Drive bridge

South Drive take-out at river-left downstream

Boater Survey for Reach 1 at South Drive bridge for 600 cfs

Boater Survey for Reach 1 at South Drive bridge for 600 cfs

South Drive bridge was used as a take-out location only for the 600 cfs flow release due to the overwhelming population of biting insects. Boaters agreed to skip the second take-out at Center Drive bridge and proceed until the end of the run just past Kimball Falls at Kimball Town Park.

Start of Reach 2 – Downstream of South Drive bridge at 600 cfs

Boaters starting Reach 2 at South Drive at 600 cfs

Boaters downstream of South Drive at 600 cfs

End of Reach 2 – Upstream of Center Drive bridge at 600 cfs

Boaters at curve just south of Center Drive at intersection with Park Street, 600cfs

Boaters upstream of Center Drive bridge at 600cfs

Boaters upstream of Center Drive bridge at 600cfs

Start of Reach 3 – Downstream of Center Drive bridge at 600 cfs

End of Reach 3 – Upstream of Kimball Falls at Kimball Town Park, 600 cfs

End of Reach 3 – Kimball Town Park bridge over Kimball Falls at 600 cfs

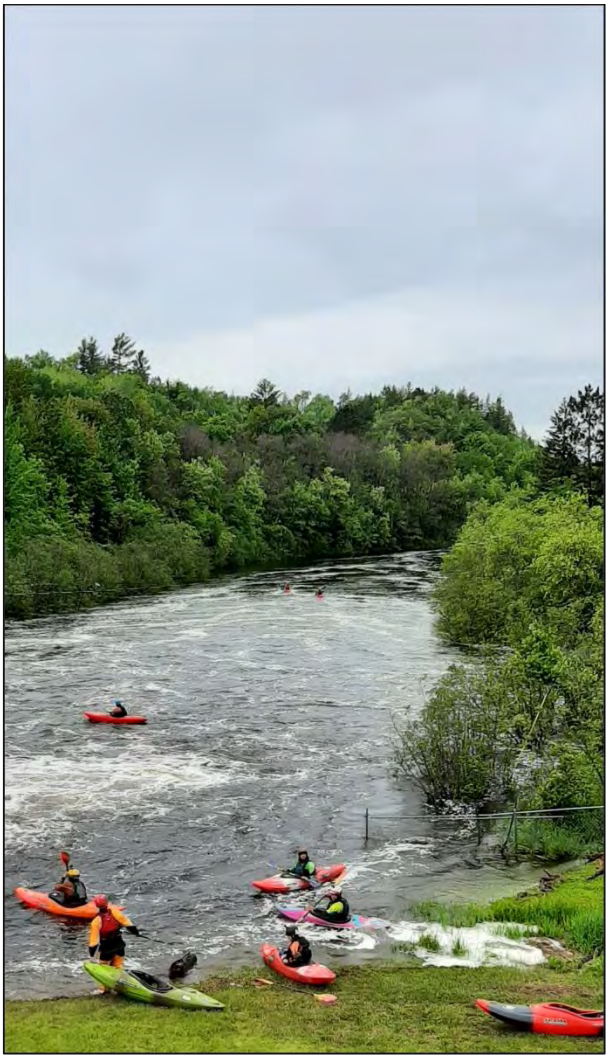
Boaters upstream of Kimball Town Park bridge approaching Kimball Falls at 600cfs

End of Reach 3 – Downstream of Kimball Town Park bridge over Kimball Falls at 600 cfs

End of Reach 3 – Raft at Kimball Falls at 600 cfs and take-out area river-right

End of Reach 3 – Kayakers at Kimball Falls at 600 cfs and take-out area river-right

Put-in at Gile Dam, prior to Study at 1,200 cfs



Start of Reach 1 – Directly downstream of Gile Dam at 1,200 cfs

End of Reach 1 – Upstream of South Drive bridge at 1,200 cfs

End of Reach 1 – Upstream of South Drive bridge at 1,200 cfs, clearance roughly 3 feet

End of Reach 1 – Boaters approaching South Drive bridge at 1,200 cfs

End of Reach 1 – Boater approaching South Drive bridge clearance at 1,200 cfs

Start of Reach 2 – Downstream of South Drive bridge at 1,200 cfs

Boaters starting Reach 2 downstream of South Drive bridge at 1,200 cfs

End of Reach 2 – Upstream of Center Drive bridge at 1,200 cfs

Boaters upstream of Center Drive bridge at 1,200cfs

Start of Reach 3 – Downstream of Center Drive bridge at 1,200 cfs

Start of Reach 3 – Boaters starting downstream of Center Drive bridge at 1,200 cfs

End of Reach 3 – Upstream of Kimball Falls at Kimball Town Park, 1,200 cfs

End of Reach 3 – Upstream of Kimball Falls at Kimball Town Park, 1,200 cfs

End of Reach 3 – Upstream of Kimball Falls at Kimball Town Park, 1,200 cfs

End of Reach 3 – Kimball Town Park bridge upstream of Kimball Falls at 1,200 cfs

Boaters upstream of Kimball Town Park bridge approaching Kimball Falls at 1,200cfs

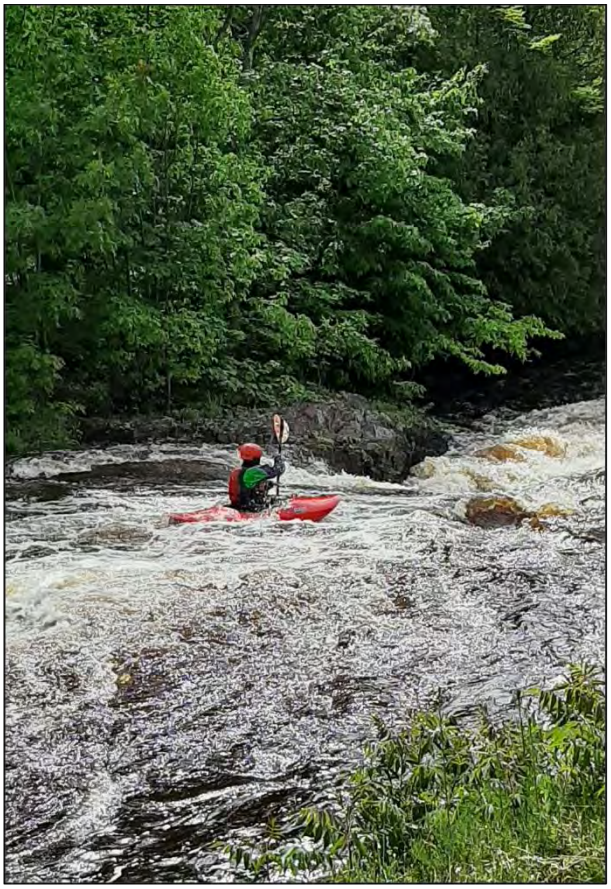
End of Reach 3 – Downstream of Kimball Town Park bridge over Kimball Falls at 1,200 cfs

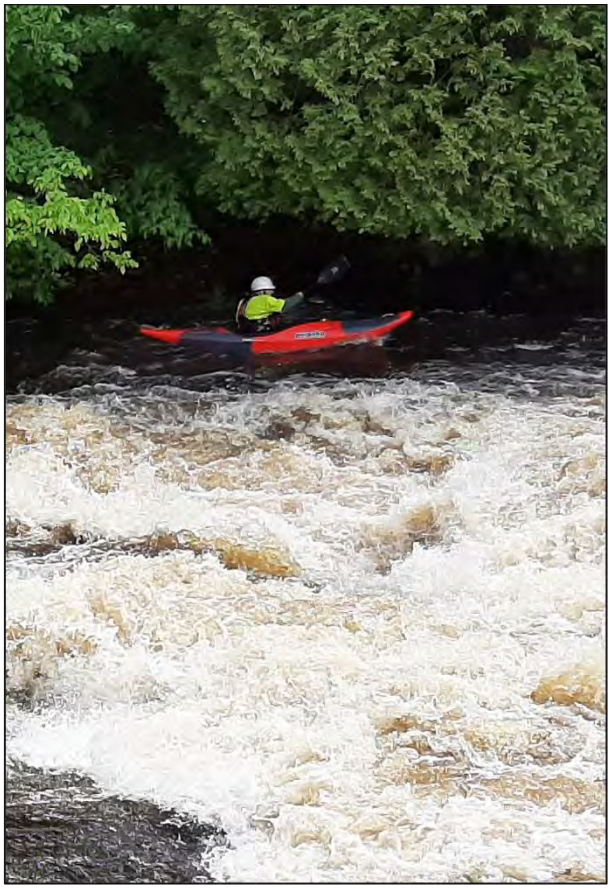
End of Reach 3 – Kimball Town Park bridge downstream of Kimball Falls at 1,200 cfs

End of Reach 3 – Boaters under Kimball Town Park bridge at 1,200 cfs

End of Reach 3 – Boaters under Kimball Town Park bridge at 1,200 cfs

End of Reach 3 – Boaters on Kimball Falls at 1,200 cfs, downstream of Kimball Town Park bridge





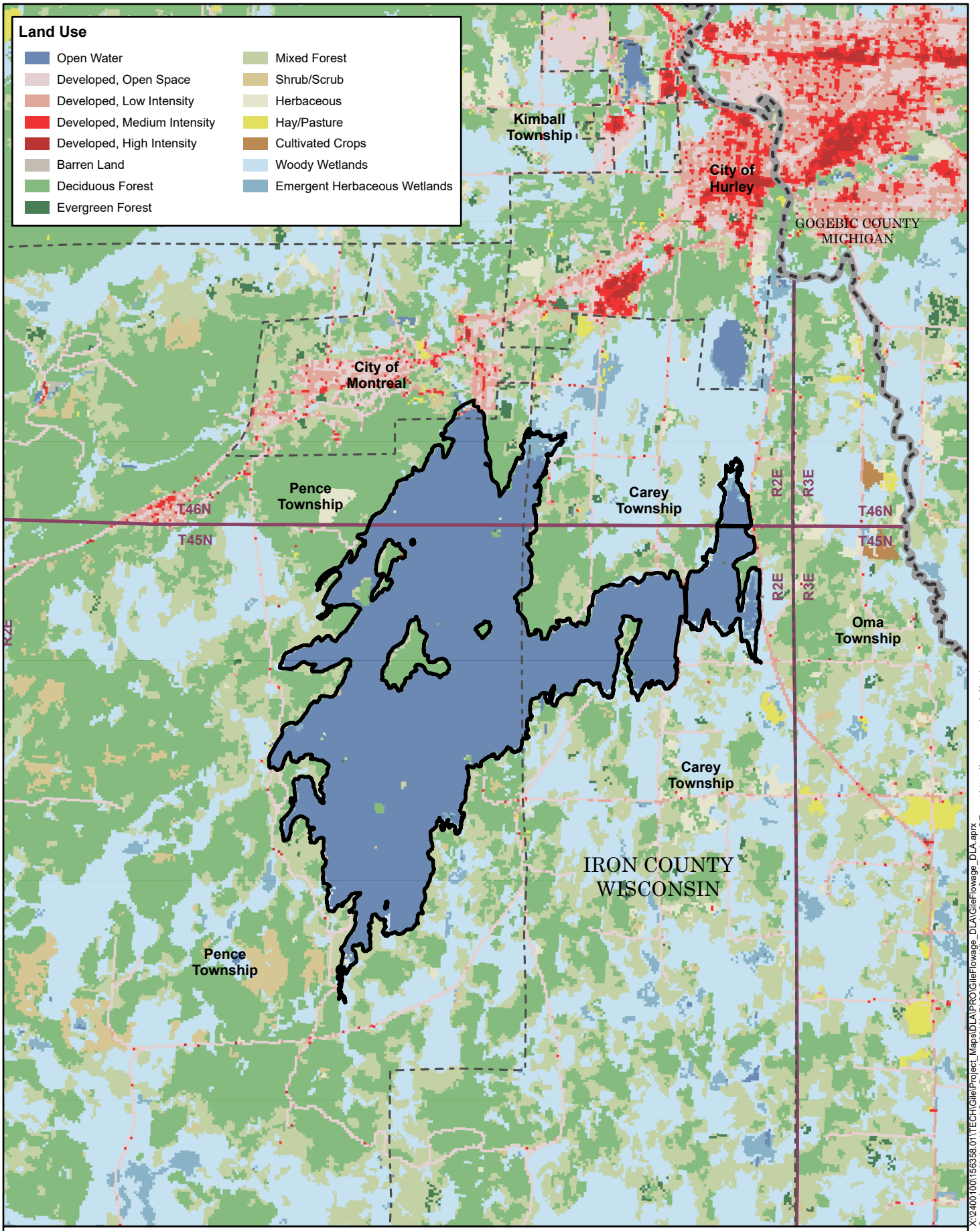
End of Reach 3 – Kimball Falls at 1,200 cfs and take-out area river-right

End of Reach 3 – Kimball Falls at 1,200 cfs and take-out area river-right

End of Study – Take-out area river-right, downstream of Kimball Falls at 1,200

End of Study – Take-out area river-right, downstream of Kimball Falls at 1,200

APPENDIX E-25 Major Land Uses in the Project Vicinity



Xcel Energy®

Mead & Hunt

Proposed Project Boundary
State Boundary
Municipal Boundary
Township Range

N

0 0.5 1 Miles

Gile Flowage Storage Reservoir
Project Vicinity Major Land Use

FERC No. 15055

Note: the impounded Proposed Project Boundary is established at elevation 1490.0 feet NGVD.

X:\24001001\156358.011\TECH\Gile\Project_Maps\DLA\PRO\GileFlowage_DLA\GileFlowage_DLA.aprx
Source Layer: National Land Cover Database (2019); PLSS Source: Wisconsin State Cartographers Office at https://www.sco.wisc.edu/data/.

APPENDIX E-26 Cultural Resources Reports

UNIVERSITY of WISCONSIN
UWMILWAUKEE

Archaeological Research
Laboratory Center
Cultural Resource Management

Sabin Hall, Rm 290
PO Box 413
Milwaukee, WI
53201-0413
414-229-3078
www.uwm.edu
www.uwm.edu/archaeology-laboratory/

September 1, 2022

Shawn Puzen
FERC Hydropower Licensing and
Compliance, Water
Mead & Hunt
1702 Lawrence Drive
De Pere, WI 54115

RE: Architecture/History Investigations
Gile Flowage Storage Reservoir Hydroelectric Project
Iron County, WI 54525
Project No. 15055
UWM-CRM 2022-0105

Dear Mr. Puzen,

The Cultural Resource Management program (Archaeological Research Laboratory Center) at the University of Wisconsin-Milwaukee (UWM) has completed a Determination of Eligibility for the Gile Flowage Dam, located in the City of Montreal, Iron County, Wisconsin. The investigation and resulting recommendation were conducted in accordance with those standards promulgated in the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation and the Architecture-History Survey Manual (hereafter, Manual) as well as Section I of the *Programmatic Agreement Among the Federal Energy Regulatory Commission, the Advisory Council on Historic Preservation, the State of Wisconsin, State Historic Preservation Officer, and the State of 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* (hereafter, Programmatic Agreement).

As a result of investigations conducted in June and July of 2022, the Gile Flowage Dam is not recommended as eligible for the National Register of Historic Places (NRHP) under any of the Criteria for Evaluation identified in 36 CFR Part 60 - National Register of Historic Places. Please see the attached NPS Form 10-900 and photo log.

If there are questions or concerns regarding the investigation, or to further discuss the project, please do not hesitate to contact me at (414) 251-6138 or at wedwards@uwm.edu.

Sincerely,

Richard Wynn Edwards IV,
Principal Investigator

And
Kelly Blaubach,
Architecture Historian

Encl.
NPS Form 10-900 Gile Flowage Dam
Gile Flowage Dam Project Location Map
Gile Flowage Historic Boundary Map
Gile Flowage Dam Photo Log

OMB Control No. 1024-0018
expiration date 03/31/2022

United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in National Register Bulletin, *How to Complete the National Register of Historic Places Registration Form.* If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions.

1. Name of Property

Historic name: ___Gile Flowage Dam __ _____

Other names/site number: _____

Name of related multiple property listing**:**

____N/A_____ _____ _____ _____ ___

(Enter "N/A" if property is not part of a multiple property listing)

2. Location

Street & number: Park Street and Nimikon Avenue_____

City or town: __Montreal__ _____ State: __WI_____ County: _Iron_____

Not For Publication: ☐ Vicinity: ☐

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act, as amended,

I hereby certify that this ___ nomination __X_ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60.

In my opinion, the property ___ meets _X__ does not meet the National Register Criteria.
I recommend that this property be considered significant at the following level(s) of significance: **N/A**

___national ___statewide ___local

Applicable National Register Criteria:

___A ___B ___C ___D

_____

Signature of certifying official/Title: **Date**

_____

State or Federal agency/bureau or Tribal Government

In my opinion, the property ___ meets ___ does not meet the National Register criteria.

Signature of commenting official: **Date**

Title : **State or Federal agency/bureau or Tribal Government**

4. National Park Service Certification

I hereby certify that this property is:

___ entered in the National Register

___ determined eligible for the National Register

___ determined not eligible for the National Register

___ removed from the National Register

___ other (explain:) _____

Signature of the Keeper Date of Action

5. Classification

Ownership of Property

(Check as many boxes as apply.)

Private:	x
Public – Local	
Public – State	
Public – Federal	

Category of Property

(Check only **one** box.)

Building(s)	
District	x

Gile Flowage Dam | Iron County, WI
Name of Property | County and State

Site ☐

Structure ☐

Object ☐

Number of Resources within Property
(Do not include previously listed resources in the count)

Contributing	Noncontributing	
1	0	buildings
	0	sites
2	0	structures
0	0	objects
3	0	Total

Number of contributing resources previously listed in the National Register N/A

---

6. Function or Use
Historic Functions
(Enter categories from instructions.)
INDUSTRY/ waterworks = dam/reservoir

Current Functions
(Enter categories from instructions.)
INDUSTRY/ waterworks = dam/reservoir

7. Description

Architectural Classification
(Enter categories from instructions.)

Other: Dam

Materials: (enter categories from instructions.)
Principal exterior materials of the property:
Earth (Dikes)
Brick (Gatehouse)
Concrete (Gated Spillway)

Narrative Description
(Describe the historic and current physical appearance and condition of the property. Describe contributing and noncontributing resources if applicable. Begin with **a summary paragraph** that briefly describes the general characteristics of the property, such as its location, type, style, method of construction, setting, size, and significant features. Indicate whether the property has historic integrity.)

Summary Paragraph
The Gile Flowage Dam is located on the west branch of the Montreal River in the City of Montreal, Wisconsin. The neighborhood of Gile, once a separate community, is located within Montreal's current municipal boundaries. The Gile Dam is located at the northern end of the reservoir, and was constructed in 1940 to store water for use in downstream hydroelectric generation. As such, the Gile Dam does not contain any electric generation equipment, but instead consists simply of a dam, spillway, and gatehouse. The dam is a 875-foot long earthen dike, punctuated in the middle by a concrete spillway with a tainter gate and slide gate, and a brick gatehouse above. The Montreal River travels north through the dam and continues towards two more hydroelectric projects downstream before emptying into Lake Superior. The 3138-acre reservoir behind the dam, known as the Gile Flowage, is surrounded by heavily wooded areas. The historic boundary encompasses the earthen dike, the gated spillway, and the gatehouse. The property retains a moderate level of integrity to its date of completion in 1940.

Narrative Description
The earthen dike spans a total of 875 and is 30 feet high, with a 10-foot wide top and 3:1 side-slopes. Approximately 700 feet of the earthen dike is visually evident at the site of the dam, identified by a moderately steep drop to the water's edge on the southern side, and a steeper drop to the base of the dike on the northern side. It was constructed in 1940 on an axis running roughly northeast to southwest. A line of boulders is located near the eastern end of the dike, extending over the top of the dike to prevent automobile access. A gravel path travels along the top of the dike to the gatehouse, and continues west along the top of the dike on the other side of the gatehouse. Stone rip rap is located on the southern (upstream) side of the dike, while the northern (downstream) side is grassy, with a small drainage stream along the bases of both the east and west portions of the earthen dam.

The gated spillway consists a reinforced concrete structure of left and right abutment walls, a sluiceway bay, a tainter gate bay, and a concrete stilling basin and tailrace. Concrete beams span the downstream walls of the stilling basin and tailrace. The sluiceway bay is located at the western end of the spillway, with equipment that is largely unseen below the level of the water and within the concrete structure. The sluiceway consists of an intake structure and trash rack on the upstream side, a slide gate measuring 6 feet wide by 6 feet high operated by an electric hoist located inside the gate house, and a large concrete outlet that conveys flow to the stilling basin. The tainter gate bay contains a riveted steel tainter gate measuring 16 feet wide and 12 feet high and is operated with an electric hoist located inside the gatehouse.

The Gatehouse sits above the gated spillway atop a concrete platform. The southern elevation of this side-gabled utilitarian building features a wide overhanging eave that shelters the walkway over the spillway. Constructed of brick laid in a common bond, the north and south elevations are comprised of two bays separated by wide brick pilasters, with the wider bay over the tainter gate portion of the spillway and a narrower bay over the sluiceway portion. A metal-door entrance is located in the narrow bay of the southern elevation. The eastern and western elevations are comprised of single bays flanked by brick pilasters at the corners, with vertical metal siding in the eaves of the gable-ends. Ornamentation is limited to shallow brick pilasters throughout. All window openings have been bricked-in, though openings are still apparent due to the concrete sills that remain.

Integrity

The earthen dike, gated spillway, and gatehouse collectively retain a moderate level of integrity. While the earthen dike and gated spillway remain virtually unchanged since the 1940s, the gatehouse's window openings have been completely bricked in. In a district with so few resources, such an alteration to the only significant building constitutes a considerable loss of integrity of design.

8. Statement of Significance

Applicable National Register Criteria
(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing.)

Property is NOT recommended as qualifying for the NRHP

- ☐ A. Property is associated with events that have made a significant contribution to the broad patterns of our history.
- ☐ B. Property is associated with the lives of persons significant in our past.
- ☐ C. Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.
- ☐ D. Property has yielded, or is likely to yield, information important in prehistory or history.

Criteria Considerations
(Mark “x” in all the boxes that apply.)

- ☐ A. Owned by a religious institution or used for religious purposes
- ☐ B. Removed from its original location
- ☐ C. A birthplace or grave
- ☐ D. A cemetery
- ☐ E. A reconstructed building, object, or structure
- ☐ F. A commemorative property
- ☐ G. Less than 50 years old or achieving significance within the past 50 years

Gile Flowage Dam
Name of Property

Iron County, WI
County and State

Areas of Significance
(Enter categories from instructions.)
Industry
Engineering

Period of Significance
1940-1972

Significant Dates
1940

Significant Person
(Complete only if Criterion B is marked above.)
n/a

Cultural Affiliation
n/a

Architect/Builder

Statement of Significance Summary Paragraph (Provide a summary paragraph that includes level of significance, applicable criteria, justification for the period of significance, and any applicable criteria considerations.)

The licensing of the Gile Dam and Flowage led to the evaluation of this property as a historic district, having potentially local significance under National Register Criteria A and C. Research was undertaken to assess the potential eligibility of the property for its significance within the areas of hydroelectric engineering and industry. The results of this research are detailed below and do not appear to support a potential listing of this District under any criteria.

The Gile Dam and Flowage was evaluated under Criterion A: History for its association with the industry of hydroelectric generation in the region. Constructed in 1940, no hydroelectricity is generated at the Gile Dam; rather, it provides water storage for release to Saxon Falls and Superior Falls downstream on the Montreal River. These hydroelectric facilities, both constructed in 1911-12, benefit from the steady flow of water released from Gile Dam and Flowage, which ensures efficient hydroelectric operations and energy production. However, the Gile Dam alone does not constitute a significant resource within the context of hydroelectric generation in the region. It is not currently recommended as eligible for listing in the NRHP under Criterion A: History. Additional research may be needed to determine whether the Gile Dam is significant as part of a larger linear resource with the downstream hydroelectric facilities at Saxon Falls and Superior Falls. Such research was beyond the scope of the current investigation.

The Gile Dam and Flowage was also evaluated under Criterion C: Engineering as an example of a dam property type. The Gile Dam is an earthen and concrete gravity dam, with sluice gates used during low flow and a tainter gate used during high flow. A gate house atop the dam contains the controls for gate operations. The structures of the Gile Dam are fairly typical compared to other hydro-related resources in Wisconsin and do not demonstrate any exceptional design elements relative to its function. For this reason, the Gile Dam and Flowage are not recommended as eligible for listing in the NRHP under Criterion C: Engineering.

Narrative Statement of Significance (Provide at least **one** paragraph for each area of significance.)

History of the Gile Flowage

Prior to European settlement, the area that would become the Gile Flowage contained a portion of the Flambeau Trail, used by native travelers and later traders between LaPointe on Madeline Island and Lac du Flambeau. The flowage is currently within the Ceded Territory of the Chippewa (Ojibwe) Tribe and the body of water is co-managed by tribal resources management through the Great Lakes Indian Fish and Wildlife Commission (GLIFWC) and the Wisconsin

DNR. Tribal spearing for walleye occurs each spring and GLIFWC has reintroduced wild rice into the northeastern corner of the flowage along Highway 51[1].

The unincorporated village of Gile was originally founded as a community surrounding a sawmill on the Montreal River. The Montreal River Company built the first dam across the river at Gile in 1885, though no evidence of the dam remains. Gile is currently located within the boundaries of the City of Montreal, a settlement established in the late 1800s by the Montreal Mining Company. Forty-five million tons of iron ore were mined and shipped from this location until 1962, when the Montreal Mine closed.[2]

By the 1920s, the first dam was gone and the Montreal River at Gile was once again natural. The river had been developed further downstream, however, with a hydroelectric project at Saxon Falls in 1912 and another hydroelectric project at Superior Falls in 1917. The electricity generated at these facilities found immediate markets, and further expansion and consolidation of various companies and systems led to the creation in 1922 of a regional utility company known as the Lake Superior District Power Company (LSDPC).[3] By 1936, the utility company operated in eight northern counties and served 55 communities. That same year the LSDPC applied to Wisconsin's public service commission to construct the dam at Gile.[4] The earthen dike, concrete spillway, and gatehouse were completed by 1940, creating a reservoir that helps control the flow of water to the hydroelectric facilities downstream. The stored water is known as the Gile Flowage, encompassing 3138 acres with a maximum depth of 25 feet. It is a popular destination for anglers, with Musky, Panfish, Smallmouth Bass, Northern Pike, and Walleye populating its waters.[5] No hydroelectric power is generated at the Gile Dam.

Hydroelectric Development in Wisconsin

By the advent of electricity in Wisconsin, many of the state's numerous rivers were already dammed in order to provide adjacent mills and factories with hydro-mechanical power. In fact, waterwheels still supplied over one third of the state's mechanical power in 1889.[6] Once the nationwide enthusiasm for electricity took hold in Wisconsin in the late nineteenth century, using these water resources to produce electricity was common sense. Utilizing extant water resources was considered more cost effective than steam-generated electricity, as the average steam engine at the time required approximately 12 pounds of coal to produce a single kilowatt hour.[7] Installing hydroelectric generators at existing dams in the state could indeed prove extremely economical, but, as on the national scene, there were many downfalls on the way to financial

[1] "Brief History of the Gile Flowage," Friends of the Gile Flowage, accessed June 24, 2022, https://www.friendsofthegile.org/home/flowage-facts.
[2] "History," City of Montreal, accessed June 24, 2022, https://montrealwis.com/.
[3] Timothy Heggland, "Saxon Falls Determination of Eligibility," Northern States Power Company, September 14, 1988, pp. 8.16-18.
[4] "$200,000 Dam in Iron County, Plan of Utility," La Crosse Tribune and Leader Press, July 30, 1936
[5] "Gile Flowage," Wisconsin Department of Natural Resources, accessed June 24, 2022, https://dnr.wi.gov/lakes/lakepages/LakeDetail.aspx?wbic=2942300&page=facts.
[6] John D. Buenker, *The History of Wisconsin: The Progressive Era, 1893-1914*, Vol. 4. William Fletcher Thompson, general ed., (Madison: State Historical Society of Wisconsin, 1998), 98.
[7] Forrest McDonald, *Let There Be Light: The Electric Utility Industry in Wisconsin, 1881-1955*, Madison, WI: The American History Research Center, 1957), 98.

success. In Wisconsin, it soon became clear that not all of the state's rivers were ideal for hydro development. The low-head waterways found throughout much of the state simply did not contain the falling force necessary to produce high levels of electricity; the profits gained were therefore not enough to offset the costs of equipment.[8] While inland waterways had been improved throughout the nineteenth century to accommodate shipping and navigation needs, seasonal changes could still create wide variations in annual water flow; winter weather froze the headwaters and smaller tributaries of most major rivers, reducing flow and electrical output at a time when demand was highest. If a hydroelectric venture included the construction of a new dam, the financial risk was even higher. The Projects constructed at Saxon and Superior Falls provide examples of the seasonal changes that could effect water flows. The dam at Gile was constructed later to help regulate flows throughout the year.

Such drawbacks were not enough to deter hydro promoters from trying to develop the state's waterways, and by 1916 Wisconsin contained approximately seventy-five hydroelectric plants. Although the power produced by these plants was insignificant when compared to hydro developments in other regions such as the California's Sierra Nevada Mountains, the installed maximum capacity of Wisconsin's hydro plants had the potential to meet three-fourths of the maximum electrical demand of the entire state by WWI.[9] As hydro development increased, so too did Wisconsin's hydro-manufacturing industry, which provided the machinery and supplies for hydroelectric development in the state. In 1889, the hydro-manufacturing industry consisted of three plants, fifteen workers, and was valued at $38,870. By 1914, the industry boasted twenty-nine factories, two thousand workers, and was valued at five million dollars.[10]

During the energy crisis brought on by high demand during WWI, the installed hydroelectric power was able to considerably alleviate coal shortages in the state.[11] At the same time, the business of electrification and hydro development began to change. A class of businessmen interested in building electric utility companies began to oversee the technological standardization of the industry and the consolidation of many of the state's hydroelectric plants and electric companies.[12] Modern utility companies like Wisconsin Public Service Corporation and the Northern States Power Company of Wisconsin-Minnesota were founded in the 1920s. They began to consolidate smaller companies and extend electric service into new markets, producing electricity generated by both steam and hydropower. Between 1917 and 1930, the number of communities in Wisconsin receiving central station electric service increased from approximately 370 to 1,000. By 1930, organizational efficiency had increased so that, with only three times the amount of capacity from all forms of electrical generation, the industry could produce six times the amount of energy.[13] Following the nationwide pattern, electrification was largely an urban phenomenon. Even though Wisconsin farmers also began to realize the benefits of electric power after WWI, extension of the utility companies into rural areas was hindered by

[8] McDonald, *Let There Be Light,* 114.
[9] McDonald, *Let There Be Light,* 171.
[10] John D. Buenker, *The History of Wisconsin,* 99.
[11] McDonald, *Let There Be Light,* 172.
[12] McDonald, *Let There Be Light,* 199-200.
[13] McDonald, *Let There Be Light*, 274-275.

high costs of installation with low expectations of profits.[14] Widespread extension of service into the state's farmlands would not take place until the creation of the Rural Electrification Administration (REA) in 1935.[15] Through the REA, government loans were arranged for rural, member-owned cooperatives to purchase electrical power from existing utilities and distribute that power on their own network of transmission lines. A number of Wisconsin cooperatives still exist today and obtain power from both coal and hydroelectric plants.[16]

While the entire electrical industry continued to grow after WWI, the hydroelectric development of the state's waterways also increased. However, as with the rest of the country, most private investment in Wisconsin came to a halt during the Great Depression. The state's major utility companies were able to survive mainly because the sale of electrical power continued to thrive. By the beginning of WWII, almost an entire generation of urban Wisconsinites did not know a time when electricity was not readily available to power their lights, appliances, and factories. As a commodity deemed absolutely necessary to modern life, the practices and rates of electric utility companies came under public scrutiny. Since 1907 Wisconsin has relied on the Public Service Commission of Wisconsin (PSC) to set rates and regulations for public utilities. In that year, Wisconsin became the first state in the nation to regulate public utilities, when the state's Railroad Commission was granted extended regulatory powers. Those powers were separated from the Railroad Commission in 1930 and given to the newly-created Public Service Commission, which continues to set rates and regulations for the electric industry today.[17]

By the late 1950s, most of the state's ideal water sites had already been dammed and developed for hydroelectric generation, and throughout the 1960s and '70s, hydroelectric development had to compete with the growth of the coal-fired power plants. The first nuclear power plant in Wisconsin, located at Point Beach in Manitowoc County, also came online in 1970. However, beginning with the nation-wide energy crisis in 1973, the PSC began encouraging public utilities to consider alternative energy sources as part of their generation strategies. In the 1990s, PSC began *requiring* public utilities to consider renewable energy sources and conservation, putting a low priority on fossil fuel development.[18] Currently, there are approximately 3,900 dams in Wisconsin, and 127 are identified as generating hydroelectric power.[19] These include privately-owned dams as well as municipal, state, and federally-owned dams. In the last twenty years, increased interest in renewable energy has led to the retrofitting of smaller dams to produce

[14] Paul W. Glad, *The History of Wisconsin: War, a New Era, and Depression*, Vol. 5. William Fletcher Thompson, editor, (Madison: State Historical Society of Wisconsin, 1990), 382.
[15] McDonald, *Let There Be Light,* 294.
[16] "History," Diaryland Power Cooperative, accessed Jan. 24, 2017, http://www.dairylandpower.com/who_we_are/history.php.
[17] "The Making of the Public Service Commission of Wisconsin," Public Service Commission of Wisconsin, accessed Jan. 20, 2017, http://psc.wi.gov/aboutUs/anniversary/makingPSC.htm.
[18] "The Making of the Public Service Commission of Wisconsin."
[19] "Interactive Report," National Inventory of Dams, United States Army Corps of Engineers, accessed January 27, 2017, http://nid.usace.army.mil/cm_apex/f?p=838:4:0::NO; these numbers differ from those of the WI Dept. of Natural Resources.

small outputs of energy, as well as the installation of additional generators in order to increase electrical output at existing dams.[20]

Montreal River

The west branch of the Montreal River is a north-flowing, non-navigable river that begins in Island Lake in Iron County and runs to the confluence with the east branch of the Montreal River and on to Lake Superior. It is part of Wisconsin's Lake Superior watershed, which drains approximately nine percent of the state's area into Lake Superior. Though the Lake Superior watershed is comparatively small, it features a large descent in elevation: between six hundred and one thousand feet over an average distance of thirty miles. The limited area of the watershed means that most rivers are small in comparison with other rivers in the state, but they can boast swift flows due to the rapid drop in elevation. Rainfall and snowmelt can be discharged very quickly into Lake Superior, meaning streams can fluctuate from small to raging and back again in very short time periods.[21] This makes the steady supply of water for hydroelectric generation a difficult task; however, the reservoir at Gile serves to alleviate a potentially volatile water supply, by regulating the flow of water for its downstream hydroelectric facilities.

Conclusion

The Gile Flowage Dam was evaluated for the National Register of Historic Places under Criteria A and C in the areas of industry and engineering. Under Criterion A, the Gile Flowage Dam does not produce electricity, and is only tangentially related to the hydroelectric industry through its control of water flows for use at downstream hydro projects. An evaluation of the Gile Flowage Dam as part of a larger linear resource in connection with the downstream hydroelectric projects was beyond the scope of current investigations. In addition, as a fairly common example of a dam property with only a moderate degree of integrity due to the infill of the gatehouse window openings, the Gile Flowage Dam does not appear to hold significance under Criterion C. No evidence was found to suggest significance under Criterion B or D. As a result, the Gile Flowage Dam is not recommended for listing in the NRHP under any criteria.

[20] "Hydro-electric generation," Wisconsin Department of Natural Resources, accessed January 27, 2017, http://dnr.wi.gov/topic/Dams/hydroElectric.html.

[21] Leonard S. Smith, *The Water Powers of Wisconsin: Wisconsin Geological and Natural History Survey*, (Madison, Wisconsin: State of Wisconsin, 1908), 250.

9. Major Bibliographical References

Bibliography (Cite the books, articles, and other sources used in preparing this form.)

Buenker, John D. *The History of Wisconsin: The Progressive Era, 1893-1914*. Volume 4. William Fletcher Thompson, General Editor. Madison: State Historical Society of Wisconsin, 1998.

City of Montreal. "History." Accessed June 24, 2022, https://montrealwis.com/.

Diaryland Power Cooperative. "History." Accessed Jan. 24, 2017. http://www.dairylandpower.com/who_we_are/history.php.

Friends of the Gile Flowage. "Brief History of the Gile Flowage." Accessed June 24, 2022, https://www.friendsofthegile.org/home/flowage-facts.

Glad, Paul W. *The History of Wisconsin: War, a New Era, and Depression*. Volume 5. William Fletcher Thompson, General Editor. Madison: State Historical Society of Wisconsin, 1990.

Heggland, Timothy. "Saxon Falls Determination of Eligibility." Northern States Power Company. September 14, 1988

McDonald, Forrest. *Let There Be Light: The Electric Utility Industry in Wisconsin, 1881-1955*. Madison, WI: The American History Research Center, 1957.

Public Service Commission of Wisconsin "The Making of the Public Service Commission of Wisconsin." Accessed Jan. 20, 2017. http://psc.wi.gov/aboutUs/anniversary/makingPSC.htm.

Smith, Leonard S. *The Water Powers of Wisconsin: Wisconsin Geological and Natural History Survey*. Madison, Wisconsin: State of Wisconsin, 1908.

United States Army Corps of Engineers: National Inventory of Dams. "Interactive Report." Accessed January 27, 2017. http://nid.usace.army.mil/cm_apex/f?p=838:4:0::NO.

Wisconsin Department of Natural Resources. "Hydro-electric generation." Accessed January 27, 2017. http://dnr.wi.gov/topic/Dams/hydroElectric.html.

-- "Gile Flowage." Accessed June 24, 2022, https://dnr.wi.gov/lakes/lakepages/LakeDetail.aspx?wbic=2942300&page=facts.

Previous documentation on file (NPS):

____ preliminary determination of individual listing (36 CFR 67) has been requested
____ previously listed in the National Register
____previously determined eligible by the National Register
____designated a National Historic Landmark
____ recorded by Historic American Buildings Survey #_____
____recorded by Historic American Engineering Record # _____
____ recorded by Historic American Landscape Survey # _____

Primary location of additional data:

____ State Historic Preservation Office
____ Other State agency
__x__ Federal agency
____ Local government
____ University
__x__ Other
Name of repository: _____Friends of the Gile Flowage_____

Historic Resources Survey Number (if assigned): __244690_____

10. Geographical Data

Acreage of Property ___1.65 acres_____

Use either the UTM system or latitude/longitude coordinates

Latitude/Longitude Coordinates
Datum if other than WGS84:_____
(enter coordinates to 6 decimal places)
1. Latitude: Longitude:

2. Latitude: Longitude:

3. Latitude: Longitude:

4. Latitude: Longitude:

Or
UTM References
Datum (indicated on USGS map):

[ ] NAD 1927 or [X] NAD 1983

1. Zone: 15N	Easting: 712994	Northing: 5145054
2. Zone: 15N	Easting: 713144	Northing: 5145135
3. Zone: 15N	Easting: 713194	Northing: 5145132
4. Zone: 15N	Easting : 713190	Northing: 5145105
5. Zone: 15N	Easting : 713154	Northing: 5145102
6. Zone: 15N	Easting : 713010	Northing: 5145026

Verbal Boundary Description (Describe the boundaries of the property.)

The historic boundary for the Gile Flowage Dam is a polygon that encompasses the earthen dikes, tainter gate, and gatehouse, as well as the intake and tailrace areas immediately north and south of the dam structure. Beginning at the southeast corner of the boundary, where the line of the boulders atop the dike above intersects the shoreline, the boundary travels approximately 670 feet southwest along the edge of the stone rip rap at the shoreline to the end of the rip rap at the western side. The boundary then turns north and travels approximately 90 feet up and over the western end of the earthen dike before turning northeast and traveling approximately 700 feet along the base of the earthen dike, across the Montreal River and dam tailrace to the end of the boulder line at the eastern side. The boundary then travels south along the boulder line for approximately 100 feet to the point of beginning.

Boundary Justification (Explain why the boundaries were selected.)

The historic boundary was delineated to encompass the structures and building of the Gile Flowage Dam project. The intake and tailrace areas immediately north and south of the structure were also included as part of the setting of the district. While the structure of the earthen dike extends 1,100 feet, the historic boundary for the district encompasses only that portion of the dike that is visually evident in the field. The eastern boundary line is visually defined by the line of boulders at the earthen dike's eastern edge. The western boundary line

is marked by the end of the stone rip rap at the earthen dike's western end. The northern boundary line follows the base of the earthen dike, crossing the Montreal River and encompassing the tailrace and a portion of the downstream. The southern boundary line follow the edge of the stone rip rap along the shore of the Gile Flowage, encompassing the intake area immediately north of the tainter gate and gatehouse.

11. Form Prepared By

name/title: Kelly Blaubach, Architectural Historian
organization: University of Wisconsin-Milwaukee, Cultural Resource Management
street & number: 3413 N. Downer Avenue
city or town: Milwaukee state: WI zip code: 53201
e-mail kjblaub@uwm.edu
telephone: 414-251-7361
date: 8-31-2022

Additional Documentation

Submit the following items with the completed form:

- **Maps:** A **USGS map** or equivalent (7.5 or 15 minute series) indicating the property's location.
- **Sketch map** for historic districts and properties having large acreage or numerous resources. Key all photographs to this map.
- **Additional items:** (Check with the SHPO, TPO, or FPO for any additional items.)

Photographs

Submit clear and descriptive photographs. The size of each image must be 1600x1200 pixels (minimum), 3000x2000 preferred, at 300 ppi (pixels per inch) or larger. Key all photographs to the sketch map. Each photograph must be numbered and that number must correspond to the photograph number on the photo log. For simplicity, the name of the photographer, photo date, etc. may be listed once on the photograph log and doesn't need to be labeled on every photograph.

Photo Log

Name of Property: Gile Flowage Dam

City or Vicinity: City of Montreal

County: Iron County State: Wisconsin

Photographer: Kelly Blaubach

Date Photographed: 7/27/2022

Description of Photograph(s) and number, include description of view indicating direction of camera:

Please see Attachment 1 for Photo Log.

1 of 14. Gile Flowage Dam, overview, looking northwest
2 of 14. Gile Flowage Dam, overview, looking west
3 of 14. Gile Flowage Dam, overview, looking west
4 of 14. Top of east earthen dike, looking west
5 of 14. East earthen dike, looking west
6 of 14. Gatehouse, east elevation
7 of 14. Gatehouse, south elevation
8 of 14. Gatehouse, west elevation
9 of 14. Gatehouse, north elevation
10 of 14. Gatehouse and tailrace, looking southwest
11 of 14. Gated spillway and tailrace, looking southwest
12 of 14. Gated spillway and sluiceway outlet, looking southwest
13 of 14. West earthen dike, looking west
14 of 14. Tailrace and downstream, looking northwest

Gile Flowage Dam
Name of Property

Iron County, WI
County and State

Paperwork Reduction Act Statement: This information is being collected for nominations to the National Register of Historic Places to nominate properties for listing or determine eligibility for listing, to list properties, and to amend existing listings. Response to this request is required to obtain a benefit in accordance with the National Historic Preservation Act, as amended (16 U.S.C.460 et seq.). We may not conduct or sponsor and you are not required to respond to a collection of information unless it displays a currently valid OMB control number.
Estimated Burden Statement: Public reporting burden for each response using this form is estimated to be between the Tier 1 and Tier 4 levels with the estimate of the time for each tier as follows:

Tier 1 – 60-100 hours
Tier 2 – 120 hours
Tier 3 – 230 hours
Tier 4 – 280 hours

The above estimates include time for reviewing instructions, gathering and maintaining data, and preparing and transmitting nominations. Send comments regarding these estimates or any other aspect of the requirement(s) to the Service Information Collection Clearance Officer, National Park Service, 1201 Oakridge Drive Fort Collins, CO 80525.

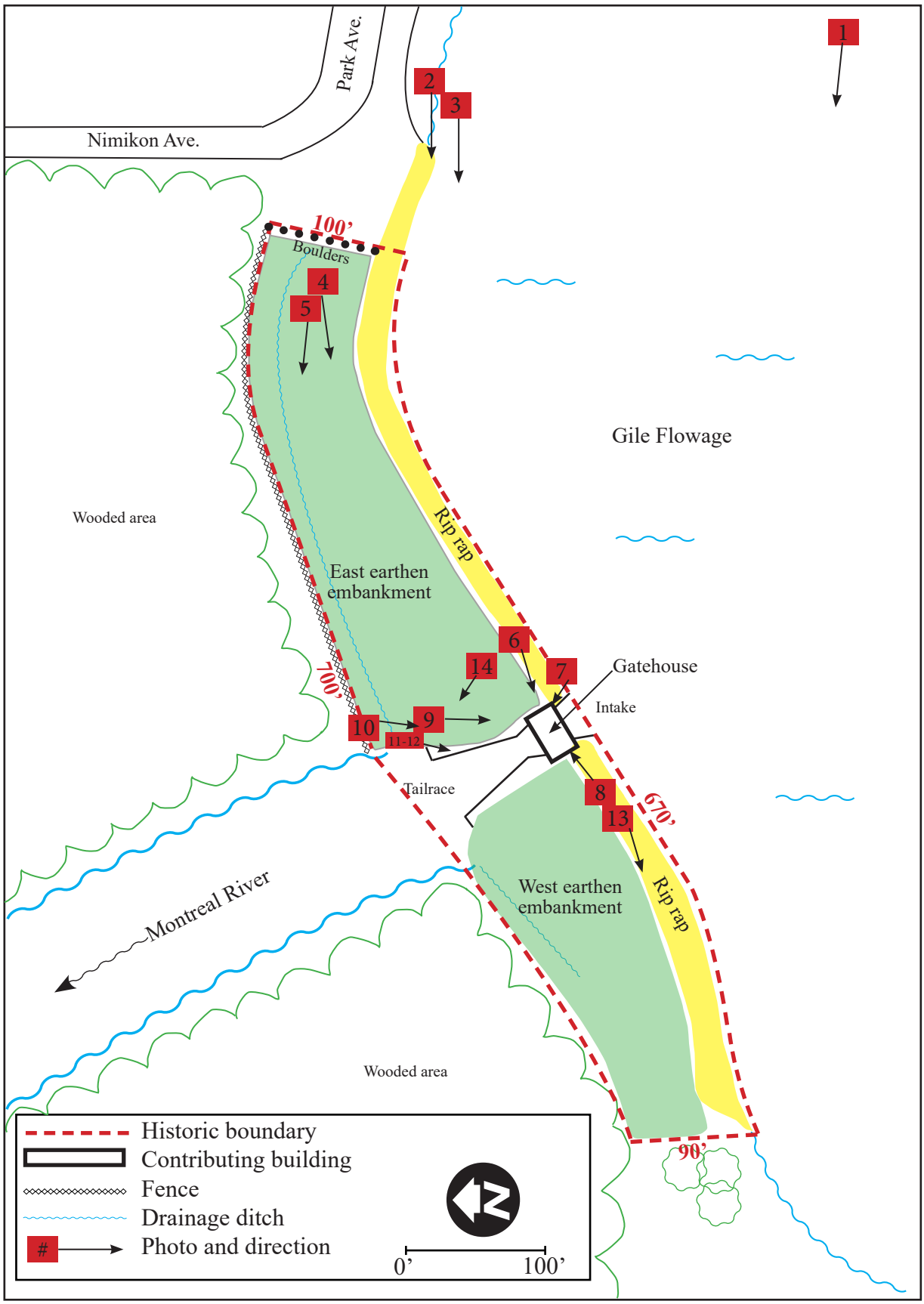
Map Details: UWM-CRM 2019-602
Coordinate System: NAD 1983 HARN Transverse Mercator
Projection: Transverse Mercator
Datum: North American 1983 HARN
Created by: UWM-CRM 8/30/2022

Project Location
Gile Flowage Dam
City of Montreal
Iron County, WI

0 0.5 1 Miles
0 0.75 1.5 Kilometers

1:24,000

Gile Flowage Dam
Park Street and Nimikon Avenue at the Montreal River
City of Montreal
Iron County, WI
Determination of Eligibility - Historic Boundary Map



Gile Flowage Dam, AHI 244690
Nimikon Avenue and Park Street
City of Montreal
Iron County, WI

Photographed by UWM-CRM
July 27, 2022
Images on file at UWM-CRM

Photo 1 of 14
Gile Flowage Dam, overview, looking northwest

Photo 2 of 14
Gile Flowage Dam, overview, looking west

Photo 3 of 14
Gile Flowage Dam, overview, looking west

Photo 4 of 14
Top of east earthen dike, looking west

Photo 5 of 14
East earthen dike, looking west

Photo 6 of 12
Gatehouse, east elevation

Photo 7 of 14
Gatehouse, south elevation

Photo 8 of 14
Gatehouse, west elevation

Photo 9 of 14
Gatehouse, north elevation

Photo 10 of 14
Gatehouse and tailrace, looking southwest

Photo 11 of 14
Gated spillway and tailrace, looking southwest

Photo 12 of 14
Gated spillway and sluiceway outlet, looking southwest

Photo 13 of 14
Top of west earthen dike, looking west

Photo 14 of 14
Tailrace and downstream, looking northwest

Photo 1 of 14

Photo 2 of 14

Photo 3 of 14

Photo 4 of 14

Photo 5 of 14

Photo 6 of 14

Photo 7 of 14

Photo 8 of 14

Photo 9 of 14

Photo 10 of 14

Photo 11 of 14

Photo 12 of 14

Photo 13 of 14

Photo 14 of 14

6737 West Washington St.
Ste. 2100
West Allis, WI 53214

T 262.879.1212
TRCcompanies.com

September 22, 2022

Shawn Puzen
Mead & Hunt, Inc.
1345 North Rd B
Green Bay, WI 54313

Subject: Shoreline Monitoring of Archaeological Sites and Erosion Check on the Gile Flowage Storage Reservoir (FERC# 15055) in Iron County, Wisconsin.
TRC Project No. 450488.0000
WIARC No. 285

Dear Mr. Puzen:

On August 25 and 26, 2022, a TRC archaeologist visited and inspected the shoreline of the Gile Flowage Storage Reservoir (Reservoir or Project) on the West Fork of the Montreal River near Montreal, Wisconsin (Figure 1). The archaeologist examined the shoreline (including islands) at known archaeological sites and inspected the remainder of the shoreline to identify erosion locations and any new archaeological sites that may have been exposed at those locations. Subsurface exploration (shovel testing) was not a part of the shoreline monitoring survey since that was not a requirement of the 1993 Programmatic Agreement which guided this survey. Due to the large size of the Reservoir, the survey was conducted by boat to facilitate access to all segments of the shoreline.

Only one cultural resource site has been reported adjacent to the Reservoir, the Montreal Company Historic District (Figures 1, 2, 4A, 4B). An inspection was conducted at the location where the historic district boundary included the Reservoir shoreline (Figure 4A). Inspections were also performed at bank exposures[1] along the shoreline and at eroded areas. Five examples of erosion were observed during the survey (Figures 4A, 4B).

The boat used for the survey was provided and operated by the President of the Board of Directors of Friends of the Gile (FOG), Cathy Techtmann, and her husband. Both have property on the Reservoir and were insightful and informed guides.

BACKGROUND

Northern States Power Company - Wisconsin (NSPW) owns and maintains the Gile Flowage Storage Reservoir as well as the two downstream hydroelectric facilities, Saxon Falls Hydro and Superior Falls Hydro. The Reservoir encompasses approximately 3,317 acres and features approximately 26 miles of irregular shaped shoreline with many areas of exposed bedrock. "About 90% of the shoreline is in public or NSPW ownership and is maintained in a natural forested state, reducing the likelihood of erosion" (PAD 2020: 26). "The combination of NSPW shoreline ownership, existing native riparian

[1] Bank exposures are any area where the bare face of some part of the bank can be viewed for artifacts: an exposed area does not constitute erosion.

vegetation buffers, and local shoreland regulations, work together to provide adequate protection from wide-spread shoreline erosion and over development" (PAD 2020: 26).

The Project is undergoing the process to obtain an original license from the Federal Energy Regulatory Commission (FERC or Commission). Since it has not been previously licensed, there is no Historic Resources Management Plan (HRMP), nor have there been any archaeological surveys of the shoreline. The 2022 shoreline monitoring survey is the first to be conducted at the Project.

The Commission is required to comply with Section 106 of the National Historic Preservation Act (NHPA). Compliance with the NHPA, as well as 36CRF800, requires an archaeological survey to determine whether cultural resource sites, which may be eligible for the National Register of Historic Places (NRHP), are affected by normal operation of the Project. Mead & Hunt, Inc., contracted with TRC to conduct the archaeological shoreline monitoring survey. The Area of Potential Effect (APE), as established through the 1993 Programmatic Agreement, is the project boundary as shown in Figure 1. This letter report provides the details of the research and fieldwork.

LITERATURE AND ARCHIVES RESEARCH

A TRC archaeologist reviewed the Wisconsin Historic Preservation Database (WHPD), which includes the Archaeological Site Inventory (ASI), Architecture and History Inventory (AHI), and Archaeological Reports Inventory (ARI); as well as the NRHP database, historic county atlases, historic US Geological Survey (USGS) 15-Minute and 7.5-Minute Topographic Quadrangles, and other sources deemed appropriate or likely to yield information relevant to cultural resources. The research noted one cultural resource and a trail that are overlapped by the Reservoir.

Montreal Company Location Historic District

The Montreal Company Location Historic District (MCLHD) was listed on the NRHP (NRHP #80000141) on May 23, 1980 (Figures 1, 2, 4A). Mining in the Lake Superior region began in the early 1840s when copper and iron ore were first discovered. The MCLHD is listed on the NRHP because it is an excellent example of a planned industrial community. Community planning was done for the mining companies to ensure housing for the company employees in the isolated areas where these mines were located. The MCLHD includes 116 contributing buildings, as well as the No. 5 mine shaft area, waste rock piles, City Hall, the Roosevelt School, Firehall building, Hamilton Club building, garage, engine house, and shops.

The first miners to the area settled around the mine shaft and built homes on lands leased from the mining company. Streets and houses were placed haphazardly across the landscape. Between 1907-1917, the planned community was built with 50 precut Aladdin Bungalows (NRHP Inventory – Nomination Form 1980).

Flambeau Trail

The 1861 General Land Office (GLO) plat map noted the route of a trail running northwest to southeast through what is now the Gile Reservoir (Figure 3). Called the Flambeau Trail, it ran 90-miles from Madeline Island to Lac du Flambeau. The first part of the trail was a combination of river and water portages connected by trails on dry land. The 1863 GLO surveyor noted a crude bridge spanning the Montreal River along the trail constructed by fur traders. As the fur trade increased throughout Wisconsin, the trail became an important route for the transport of goods (Techtmann 1993).

FIELDWORK

The survey was conducted on August 25 and 26, 2022 using a boat to gain access to shoreline areas that were adjacent to cultural resources or where there was sufficient bank exposure to warrant an inspection for artifacts. The survey consisted of a visual inspection of the Reservoir shoreline, including the islands. The boat was moored at the approximate location where the WHPD-mapped historic district overlaps the shore, the approximate areas where the Flambeau Trail is indicated on the GLO map, and at any area of erosion identified during the survey (Figures 4A, 4B; Table 1). Five areas of erosion were noted (E-1 through E-5 on Figures 4A and 4B and Photos 11-15). Area E-3 was within the WHPD-mapped MCLHD boundary. Ten additional photos were taken at various locations (Figure 2) to provide a visual characterization of the Reservoir's shoreline (Photos 1-10).[2] The inspection results are described below.

Montreal Company Location Historic District

A small part of the WHPD-mapped MCLHD overlaps the Reservoir due west of the dam. This area is well vegetated with coniferous forest adjacent to the water. A small segment of this site shows erosion (E-3, Photo 13) and was surface collected at the water's edge, the exposed bank, and the slumped bank. No artifacts or archaeological deposits were noted. Since this area is within the WHPD-mapped MCLHD boundary, TRC recommends that this segment be monitored locally (e.g., NSPW operator) to determine if the exposure gets larger.

Flambeau Trail

The GLO-mapped trail runs northwest-southeast and crosses an area below the Reservoir. The trail abuts the shoreline of the reservoir at two approximate locations (Figure 3). The shorelines at both locations are stable and well vegetated with pine, birch, maple, and oak. (Photo 2). No additional archaeological work is recommended at these locations.

E-1

Erosion area E-1 is on the shoreline of a small island (Photo 11). The site was surface collected at the water's edge, the exposed bank, and the slumped bank. There were no artifacts or archaeological deposits encountered. No additional archaeological work is recommended at this location.

[2] A total of 97 photos were taken at various areas along the shoreline; ten were selected for the report for descriptive purposes and five were selected to show erosion. The boat was moored at some of the locations to get a closer look at the shoreline.

E-2
Erosion area E-2 is on the west shoreline of the reservoir (Photo 12). The area was surface collected at the water's edge, the exposed bank, and the slumped bank. No artifacts or archaeological deposits were encountered. The toe of the bank in this location is stable and well vegetated. No additional archaeological work is recommended at this location.

E-3
Site E-3 is along the reservoir shoreline near the west end of the west dike (Photo 13). The area was surface collected; however, no artifacts or archaeological deposits were encountered. No additional archaeological work is recommended at this location.

E-4
Erosion was observed along the entire shoreline of the small island where E-4 is located (Photo 14). At normal pool elevation, the island would only be about 3 sq. meters in size. However, since the Reservoir elevation was down approximately 3 feet from normal pool at the time of the survey, a greater area of the island was exposed. The site was surface collected; however, no artifacts or archaeological deposits were encountered. No additional archaeological work is recommended at this location.

E-5
Erosion area E-5 is on the shoreline of a small island (Photo 15). The area was surface collected at water's edge, the exposed bank, and the slumped bank. No artifacts or archaeological deposits were encountered; therefore, no additional archaeological work is recommended at this location.

The remainder of the Reservoir's shoreline is well vegetated with stands of pine, birch, maple, and oak (Photos 1-10). Areas of exposed bedrock are visible along the shoreline at various locations as depicted in Photo 1 (right hand side) and Photo 10. The Reservoir elevation was three feet below normal pool so much of the exposed lake bottom revealed rock, gravel, or sand beaches where grasses had begun to grow on the newly exposed ground. There were a few areas of emergent vegetation, but most of the shoreline was forested to water's edge. No areas of rip rap or stabilization were noted.

CONCLUSION AND RECOMMENDATION

The literature and archives research revealed that one cultural resource and one GLO-mapped trail were overlapped by the water. Five areas of erosion (E-1 through E-5) were also noted.

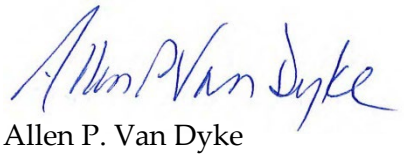
The single cultural resource site is designated as the Montreal Company Location Historic District. Most of the MCLHD shoreline is stable except for a small area designated as E-3. TRC recommends that NSPW monitor the erosion at site E-3 for any changes within 5 years of license issuance.

The trail noted on the 1861 GLO maps abuts the shoreline at two locations. The shoreline appears stable at these two locations and no additional archaeological work is recommended at this time.

Erosion areas E-1, E-2, E-4, and E-5 were surface collected; however, no artifacts or archaeological deposits were encountered. No additional work is recommended at these locations.

Should NSPW personnel identify or become aware of erosion at any of the known archaeological sites, or become aware of substantial erosion at any area previously not documented, they should consult with an archaeologist and the State Historic Preservation Office (SHPO) on how best to proceed. If I can provide additional assistance, I can be reached by email at AVanDyke@trcscompanies.com. or by phone at 262-225-5105.

Sincerely,
TRC



Allen P. Van Dyke
Principal Archaeologist – Midwest

Attachments: 4 Figures, 15 Photos, 1 Table

REFERENCES CITED

NRHP Inventory – Nomination Form

1980 Montreal Company Location Historic District - NRHP Inventory – Nomination Form. MS on file at the Wisconsin Historic Society. Madison, Wisconsin.

Techtmann, Cathy

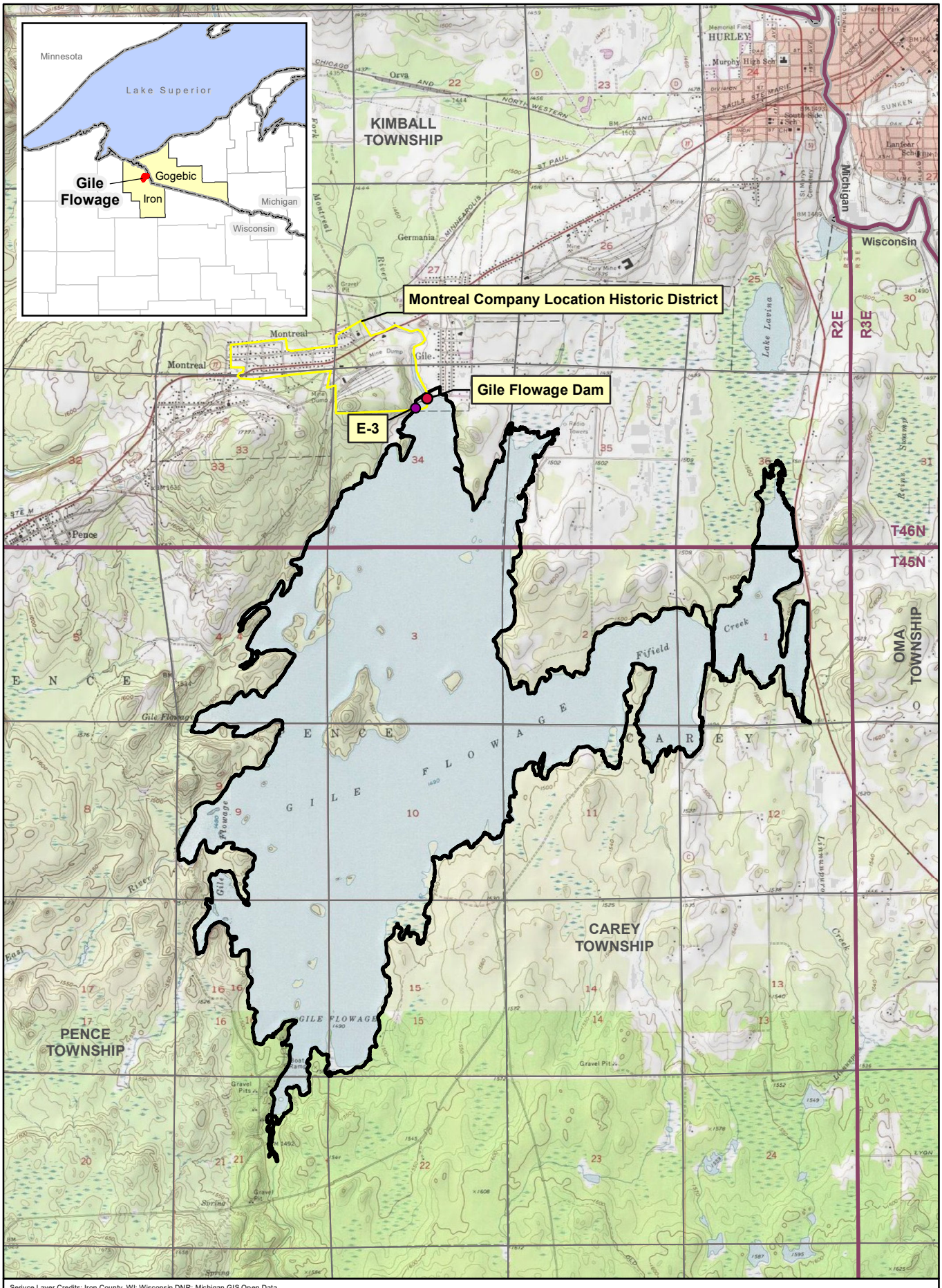
1995 *Flambeau Trek Guide to the Historic Flambeau Trail*. Published by Cathy Techtmann, Iron County, UW-Extension.

Mead & Hunt

2020 Preliminary Application Document. Gile Flowage Storage Reservoir Project FERC Docket No. UL20-1-000. Montreal River, Iron County, Wisconsin. Submitted by Northern States Power Company – Wisconsin, Eau Claire, Wisconsin

Xcel Energy's FERC Licensing Documentation is available at: (hydrorelicensing.com/gile-flowage/)

ATTACHMENT 1: FIGURES



\\corp.meadhunt.com\shared\folders\enlp\240010015838.011\TECH\Saxon Falls and Superior Falls\Maps\GileFlowage_Location.mxd

Serivce Layer Credits: Iron County, WI; Wisconsin DNR; Michigan GIS Open Data

Xcel Energy®

Mead & Hunt

Facility Boundary
State Boundary
Township Range
Section

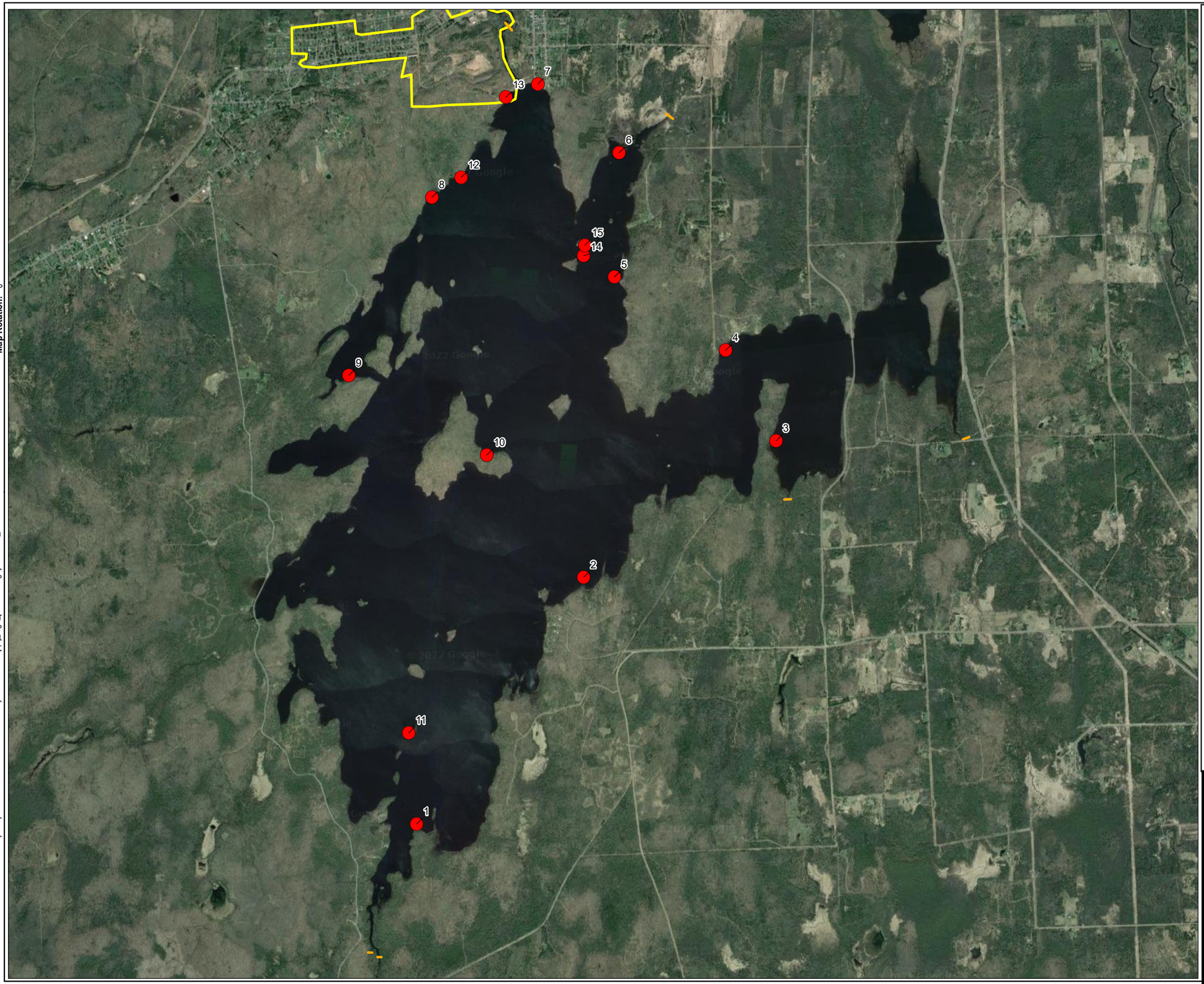
N

0 2,000 4,000 Feet

Figure 1

Gile Flowage Facility Boundary

WI Dam ID 42



Legend:

- Upstream/Downstream Extent of Survey
- Historic District
- Photo Locations

Notes:
1. Base Imagery from Google Earth Pro & Partners, 2022.

N

0 1700 3400 5100 6800 Feet

1 " = 2,500 '
1:30,000

PROJECT:
Xcel Energy
Gile Flowage Archaeological Survey
Iron County, WI

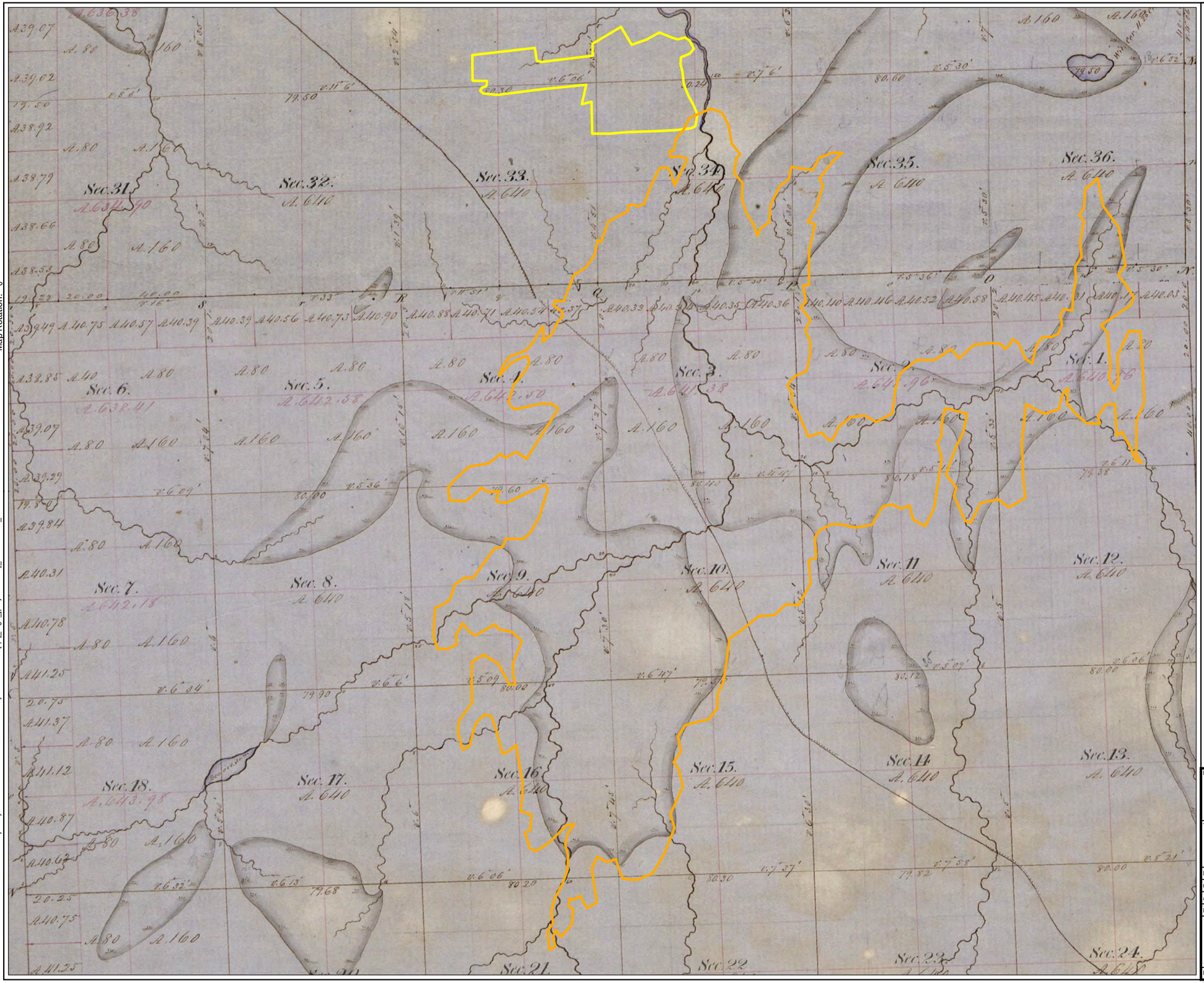
TITLE:
Erosion Locations Map

DRAWN BY:	A.MCMAHON	PROJ NO.:	486101.0000.0000
CHECKED BY:	R.KLABACKA-WILLIAMS		
APPROVED BY:	A.VAN DYKE		**FIGURE 2**
DATE:	SEPTEMBER 2022		

TRC
6737 W WASHINGTON ST.
SUITE 2100
WEST ALLIS, WI 53214
PHONE: 262.879.1212

FILE NO.: [rpt]_Figx_[Gile Flowage]Version 2_11x17.mxd

TRC - GIS
Coordinate System: NAD 1983 UTM Zone 15N (Meter)
Map Rotation: 0
Plot Date: 8/30/2022, 07:37:12 AM by AMCMAHON -- LAYOUT: ANSI B(11"x17")
Path: P:\ARCHAEOLOGY\TRC\Project by Client\Mead & Hunt\2022\Giles Hydro\Giles GIS\[rpt]_Figx_[Gile Flowage]Version 2_11x17.mxd



Legend:

- Project Area
- Historic District

Notes:
1. Imagery from U.S. Department of the Interior-Bureau of Land Management.

N

0 2,000 4,000 Feet

1 " = 2,500 '
1:30,000

PROJECT:
Xcel Energy
Gile Flowage Archaeological Survey
Iron County, WI

TITLE:
1863 GLO

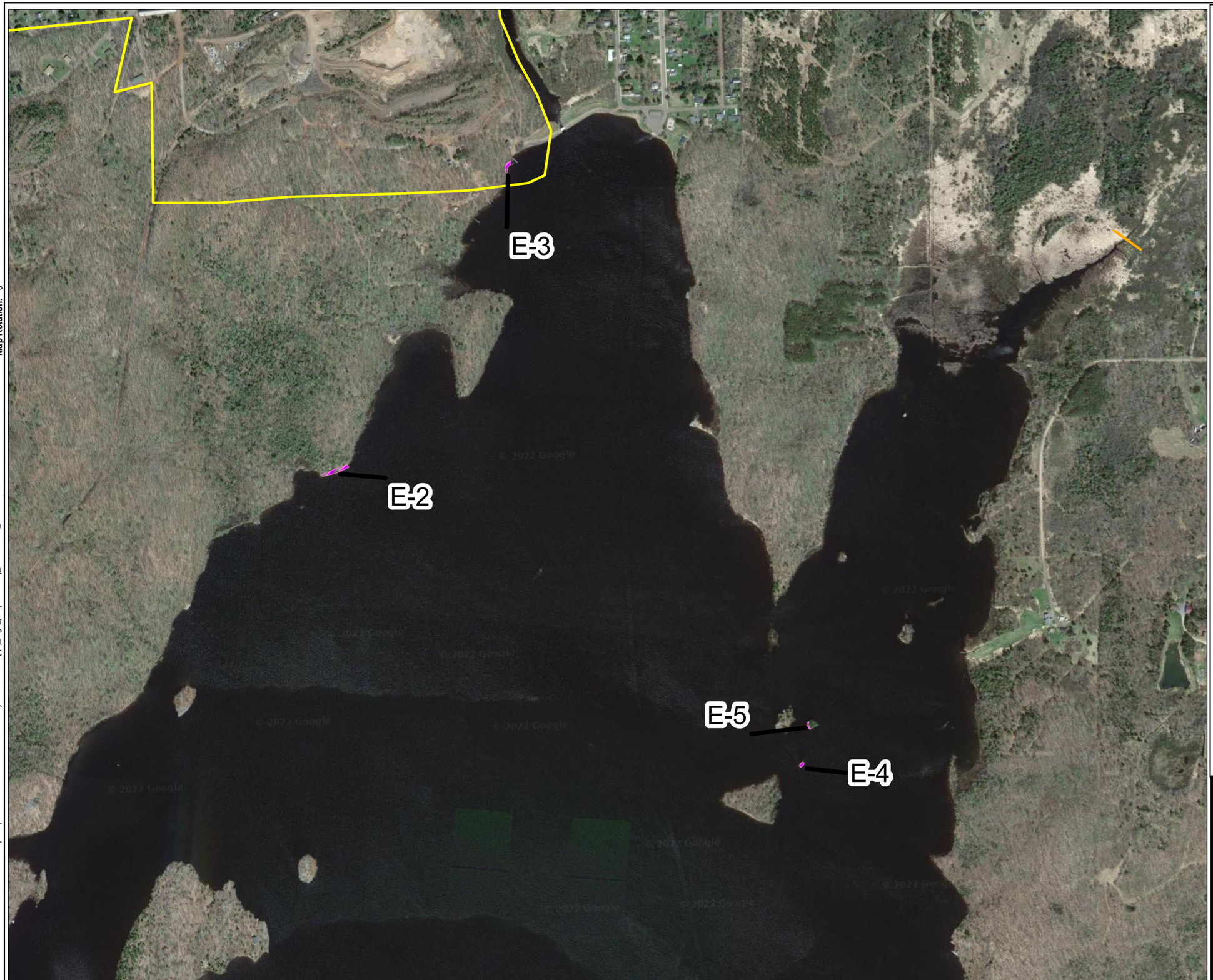
DRAWN BY:	A.MCMAHON	PROJ NO.:	486101.0000.0000
CHECKED BY:	R.KLABACKA-WILLIAMS		
APPROVED BY:	A.VAN DYKE		**FIGURE 3**
DATE:	SEPTEMBER 2022		

TRC
6737 W WASHINGTON ST.
SUITE 2100
WEST ALLIS, WI 53214
PHONE: 262.879.1212

FILE NO.: [rpt]_Figx_[project name]_TEMPLATE_11x17.mxd

Coordinate System: NAD 1983 UTM Zone 15N (Meter)
Map Rotation: 0
Plot Date: 8/29/2022, 17:38:50 PM by AMCMAHON -- LAYOUT: ANSI B(11"x17")
Path: P:\ARCHAEOLOGY\TRC\Project by Client\Mead & Hunt\2022\Giles Hydro\Giles GIS\[rpt]_Figx_[project name]_TEMPLATE_11x17.mxd

TRC - GIS



Legend:

- Upstream/Downstream Extent of Survey
- Historic District
- Erosion Areas

Notes:
1. Base Imagery from Google Earth Pro & Partners, 2022.

N

0 450 900 1350 1800 Feet

1 " = 667 '
1:8,000

PROJECT:
Xcel Energy
Gile Flowage Archaeological Survey
Iron County, WI

TITLE:
Erosion Locations Map

DRAWN BY:	A.MCMAHON	PROJ NO.:	486101.0000.000
CHECKED BY:	R.KLABACKA-WILLIAMS		
APPROVED BY:	A.VAN DYKE		**FIGURE 4A**
DATE:	SEPTEMBER 2022		

TRC
6737 W WASHINGTON ST.
SUITE 2100
WEST ALLIS, WI 53214
PHONE: 262.879.1212

FILE NO.: [rpt]_Figx_[project name]_TEMPLATE_11x17.mxd

TRC - GIS
Coordinate System: NAD 1983 UTM Zone 15N (Meter)
Map Rotation: 0
Plot Date: 8/29/2022, 19:21:20 PM by AMCMAHON – LAYOUT: ANSI B(11"x17")
Path: P:\ARCHAEOLOGY\TRC\Project by Client\Mead & Hunt\2022\Giles Hydro\Giles GIS\[rpt]_Figx_[project name]_TEMPLATE_11x17.mxd

Legend:

- Upstream/Downstream Extent of Survey
- Erosion Areas

Notes:
1. Base Imagery from Google Earth Pro & Partners, 2022.

N

0 450 900 1350 1800 Feet

1 " = 667 '
1:8,000

PROJECT:
Xcel Energy
Gile Flowage Archaeological Survey
Iron County, WI

TITLE:
Erosion Locations Map

DRAWN BY:	A.MCMAHON	PROJ NO.:	486101.0000.0000
CHECKED BY:	R.KLABACKA-WILLIAMS		
APPROVED BY:	A.VAN DYKE		**FIGURE 4B**
DATE:	SEPTEMBER 2022		

TRC
6737 W WASHINGTON ST.
SUITE 2100
WEST ALLIS, WI 53214
PHONE: 262.879.1212

FILE NO.: [rpt]_Figx_[project name]_TEMPLATE_11x17.mxd

Coordinate System: NAD 1983 UTM Zone 15N (Meter)
Map Rotation: 0

Plot Date: 8/29/2022, 19:21:20 PM by AMCMAHON -- LAYOUT: ANSI B(11"x17")
Path: P:\ARCHAEOLOGY\TRC\Project by Client\Mead & Hunt\2022\Giles Hydro\Giles GIS\[rpt]_Figx_[project name]_TEMPLATE_11x17.mxd

TRC - GIS

ATTACHMENT 2: PHOTOS

Photo 1: Coniferous forest – view to south.

Photo 2: Riparian meadow; background – coniferous forest. View to south.

Photo 3: Emergent wetland vegetation; background – coniferous forest. View to west.

Photo 4: Shrub-carr; background – coniferous forest. View to north.

Photo 5: Foreground – mud/gravel bar; middle ground – emergent wetland vegetation; background – coniferous forest. View to east.

Photo 6: Left side – deep marsh; right side – shallow marsh; middle – mud flat; background – mixed deciduous/coniferous forest. View to northeast.

Photo 7: Unvegetated rip rap armored shoreline with beach-like foreground. View to southwest.

Photo 8: Mud flat along the shoreline under the canopy of mixed deciduous/coniferous forest. View to north.

Photo 9: Mud flat or sand bar with sparse emergent vegetation; background - mixed deciduous/coniferous forest. View to south.

Photo 10: Exposed rock shoreline; mixed deciduous/coniferous forest behind it. View to south.

Photo 11: E-1 Mixed deciduous/coniferous forest behind erosion. View to northeast.

Photo 12: Not a definable plant community - mix of woody and herbaceous plants starting to establish. View to northwest.

Photo 13: **Tail of a dog on beach – foreground; mixed deciduous/coniferous forest on top of eroded bank. View to the northwest.**

Photo 14: Mixed deciduous/coniferous forest on top of the eroded bank; willow growing in beach on the left. View to west.

Photo 15: Mixed deciduous/coniferous forest on top of eroded bank. View to northeast.

ATTACHMENT 3: TABLE

Table 1. Erosion Area Locations

Erosion #	Latitude	Longitude	Photo Numbers
E-1	46°22'43.79"N	90°14'26.80"W	11
E-2	46°25'8.87"N	90°13'59.55"W	12
E-3	46°25'29.68"N	90°13'41.70"W	13
E-4	46°24'47.34"N	90°13'14.18"W	14
E-5	46°24'50.02"N	90°13'13.57"W	15

ARCHAEOLOGICAL REPORTS INVENTORY FORM

WHS PROJECT # ____ COUNTY Iron

AUTHORS: Allen P. Van Dyke and Rachel L. Klabacka-Williams

REPORT TITLE: Shoreline Monitoring of Archaeological Sites and Erosion Check on the Gile ~~Flow~~age Storage Reservoir

DATE OF REPORT (MONTH AND YEAR): 09/2022

SERIES/NUMBER: WIARC No. 285

PLACE OF PUBLICATION: West Allis, WI

LOCATIONAL INFORMATION [LEGAL DESCRIPTION OF SURVEY AREA (T-R-S)]
T45N and T46N, R2E, various sections

U.S.G.S. QUAD MAP(S): Turntable Creek, Ironwood, Iron Belt, Pine Lake 7.5

SITE(S) INVESTIGATED: Montreal Company Location Historic District

ACRES INVESTIGATED: ____ AGENCY # ____

INVESTIGATION TECHNIQUES COMPLETED (Check all that apply.)

■ Historical Research	■ Surface Survey	☐ Geomorphology
■ Interview/Informant	☐ Soil Core	☐ Underwater
■ Records/Background	■ Walk Over/Visual Inspection	☐ Avocational Survey
■ Literature Background Research	☐ Mechanical Stripping	☐ Chance Encounter
☐ Traditional Knowledge	☐ Test Excavation/Phase II	☐ Osteological Analysis
■ Monitoring	☐ Major Excavation/Phase III	☐ Faunal Analysis
☐ Shovel Testing/Probing	☐ Remote Sensing	☐ Floral Analysis

ABSTRACT: ■ Included in report ☐ Written in space below

APPENDIX E-27 Wisconsin Construction Site Erosion Control Field Guide


WISCONSIN
CONSTRUCTION SITE
EROSION CONTROL
FIELD GUIDE
NASECA
WISCONSIN

Table of Contents

ACRONYMS

- **WDNR T.S.** Wisconsin Department of Natural Resources Stormwater Management Technical Standard
- **WisDOT PAL** Wisconsin Department of Transportation Product Acceptability List
- **BMP** Best Management Practice

CONTACTS

- **NASECA-Wisconsin**
  P.O. Box 70714 | Madison, WI 53707-0714
  info@nasecawi.org | www.nasecawi.org

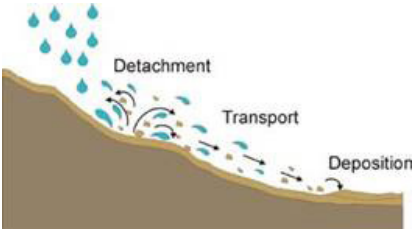
- **Emmons & Olivier Resources**
  119 S. Main Street | Cottage Grove, WI 53527
  bnelson@eorinc.com | www.eorinic.com

ACKNOWLEDGEMENTS

- Wisconsin Department of Natural Resources (WDNR)
- Wisconsin Department of Transportation (WisDOT)
- Dane County Land and Water Resources Department
- Gil Layton, Layton Environmental
- Tony Vandermuss, Capital Area Regional Planning Commission
- U.S. Environmental Protection Agency (EPA)

This guide is current as of October 2, 2019.

Background



As our society has become more environmentally aware, federal, state and local regulatory agencies have recognized the impacts of sediment pollution on our lakes, streams and wetlands and have established rules to reduce those impacts.

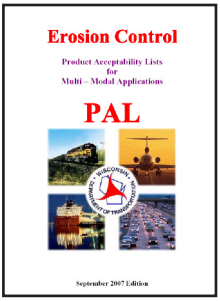
Project owners and contractors are required to meet the standards prescribed in the rules during construction. Consequently, erosion control Best Management Practices (BMPs) have become a standard part of the construction process.

Erosion control BMPs are designed to limit off-site effects of erosion, aid in project construction while minimizing overall cost, and to comply with federal, state, and local laws and regulations.

BMPs can be generally classified into two categories, erosion control and sediment control.

- Erosion Control - Directly protect the disturbed soil surface from erosion. They are the best measure for preventing erosion.
- Sediment Control - Aid in removal of sediments from water after the erosion process has already begun. This is accomplished by using barriers, containments, or other devices to filter or reduce the velocity of the water so soil particles can no longer remain suspended.

This guide is intended to aid designers, inspectors and contractors in selecting and correctly installing BMPs to reduce erosion, by following technical standards developed by the Wisconsin DNR.



WISCONSIN DEPARTMENT OF TRANSPORTATION PRODUCT ACCEPTABILITY LIST (PAL)

https://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrces/tools/pal/default.aspx

This list provides guidance in selecting and proper application of erosion and sediment control products. The Product Acceptability List pages are for the guidance of design engineers, technicians, and inspection personnel, municipalities, counties, contractors, and suppliers engaged in bridge and highway design, plan preparation, and construction.

Categories include tackifiers, erosion mats, soil stabilizers, inlet protection, and temporary ditch checks. Projects permitted by the State of Wisconsin shall utilize products listed on the PAL when appropriate.

WISCONSIN DEPARTMENT OF NATURAL RESOURCES STORMWATER CONSTRUCTION AND POST-CONSTRUCTION TECHNICAL STANDARDS

http://dnr.wi.gov/topic/stormwater/standards

Stormwater Construction and Post-Construction Technical Standards are minimum requirements needed to plan, design, install and maintain a wide array of conservation practices aimed at preserving the land and water resources of Wisconsin. The WDNR recommends that these technical standards be used for erosion/sediment control or stormwater management as they have been determined to be adequate and effective to implement the performance standards of subch. III or IV of ch. NR 151 and Trans 401.06, WI Administrative Code.

BMP Matrix

WDNR T.S.	Best Management Practice	Construction		Site Features		
		Summer	Winter	Steep Slopes	Ditches or Channels	Sensitive Features
		May-September	October-April	Slopes >10%	Concentrated Flow	Wetlands, Waterways, Streams
	Erosion Control					
1050	Land Application of Additives	OK	OK	OK	✗	✗
1052	Non-Channel Erosion Mat	OK	OK	OK	✗	✗
1053	Channel Erosion Mat	OK	OK	✗	OK	✗
1058	Mulch	OK	OK	OK	✗	✗
1059	Seeding	OK	✗	OK	✗	✗
1067	Temporary Grading Practices	OK	OK	OK	✗	✗
1068	Dust Control	OK	OK	✗	✗	✗

WDNR T.S.	Best Management Practice	Construction		Site Features		
		Summer	Winter	Steep Slopes	Ditches or Channels	Sensitive Features
		May-September	October-April	Slopes >10%	Concentrated Flow	Wetlands, Waterways, Streams
Sediment Control						
1051	Water Application of Additives	OK	OK		OK	OK
1054	Vegetative Buffer	OK		OK		OK
1055	Sediment Bale Barrier	OK	OK	OK		OK
1056	Silt Fence	OK	OK	OK		OK
1057	Trackout Control Pracitices	OK	OK			
1060	Storm Drain Inlet Protection	OK	OK			
1061	Dewatering	OK	OK			
1062	Temporary Ditch Check	OK	OK		OK	OK
1063	Sediment Trap	OK	OK		OK	
1064	Sediment Basin	OK	OK		OK	
1066	Construction Site Diversion	OK	OK	OK	OK	
1069	Turbidity Barrier	OK	OK			OK
1070	Silt Curtain	OK	OK			OK
1071	Temporary Slope Breaks	OK	OK	OK		

Land Application of Additives WDNR T.S. 1050

DEFINITION

The land application of products containing water soluble and non-soluble additives to temporarily reduce erosion.

PURPOSE

To reduce erosion from wind and water on construction sites and agricultural lands until vegetation is established.

CONDITIONS WHERE PRACTICE APPLIES

Intended for direct soil surface application to sites where the timely establishment of vegetation may not be feasible or where vegetative cover is absent or inadequate. Such areas may include agricultural lands where plant residues are inadequate to protect the soil surface and construction sites where land disturbing activities or winter shutdown prevent establishment or maintenance of a cover crop.

This practice is not intended for application to surface waters of the state as defined by WDNR ch. NR 102.

LAND APPLICATION OF ADDITIVES INSTALLATION

Application

- Selected from the approved list in the WisDOT PAL. This product is defined as "Soil Stabilizer, Type B" on the WisDOT PAL.
- Apply additives by the methods and at the rates specified by manufacturer.
- The additive may be used either alone as a temporary stabilization measure or in conjunction with seeding and mulching for permanent restoration.
- Additives may be particularly applicable for temporary stabilization of disturbed areas that will receive intermittent periods of disturbance throughout a construction project.
- May be applied with conventional hydraulic seeding equipment or through dry spreading. Choose application method for uniform coverage and to minimize drift to non-target areas. Prevent over-spray from reaching pavement (pavement becomes slippery).

Restrictions

- Application rates shall not exceed manufacturer's written application rate or WDNR allowable application rate (expressed in lbs/ac).
- Do not use in areas within 30 feet of wetlands, waterways, or channels.
- Use of additives shall be restricted to slopes 3 horizontal : 1 vertical or flatter unless used in conjuction with other surface stabilization methods.

Documentation

- Document and keep with the erosion control plan and inspection notes:
  - » Name of person performing the application;
  - » Date, location of application, and weather conditions;
  - » Type of additive applied (manufacturer, product name, concentration);
  - » Application rate per acre, amount of material used, and method.

INSPECTION AND MAINTENANCE

Reapply after disturbance, large rain events, or where wind/rill erosion is apparent since the last application. May lose effectiveness in 2 months.

Water Application of Additives (WDNR T.S. 1051)

DEFINITION

The application of products containing water-soluble additives to remove suspended solids in sediment control structures.

PURPOSE

To clarify water prior to discharge by settling suspended solids within sediment control structures for construction or post-construction process systems.

CONDITIONS WHERE PRACTICE APPLIES

- Use to improve the sediment removal efficiency of self-contained sediment control structures (such as a detention basin) on a temporary basis for construction sites or, in an emergency, for post-construction sites.
- Do not apply polymers directly to surface waters of the state.
- If used in accordance with the use restriction, polymer must meet an acceptable level of risk such that it can be used without harm to organisms that inhabit or come in contact with the aquatic environment. Every attempt shall be made to eliminate any environmentally toxic chemicals within a polymer mixture, and must be non-combustible.
- Contact WDNR Stormwater Program Coordinator at (608) 266-2621 to obtain current list of products with reviewed toxicity data and allowable application rates.

WATER APPLICATION OF ADDITIVES INSTALLATION

Application

- Maximum application rates in pounds per acre-feet shall be the lesser of WDNR's use restriction multiplied by 1.35 or manufacturer's rate.
- Neither the manufacturer's written application rate recommendations nor the application rate shall exceed the WDNR use restriction.
- The manufacturer or distributor shall provide for the applicator:
  - » Labels affixed to the polymer mixture containers that indicate the recommended application rate and the maximum application rate based on the use restriction;
  - » Product expiration date for the polymer mixture based on product expiration dates of the polymer and written application methods;
  - » Written instructions for safety, storage, and mixing of their product.
- The product must be applied uniformly and in one of the following ways:
  - » Passive Applications: Polymers applied by non-mechanically dosing the sediment laden inflow prior to it entering the impoundment area of the sediment control structure. Manufacturer must base passive application rates on the dissolution rate and/or the dead storage volume of the sediment control structure.
  - » Active or Mechanical Applications: Polymer applied by mechanically or hydraulically mixing directly into a sediment control structure.

Documentation

- » Name of applicator, product type, and method of application;
- » Application rate in pounds per acre-feet of stormwater runoff;
- » Date applied and weather conditions during application; and pH in sediment control structure after application.
- » Contractor shall enter this information into a monitoring log or a project diary and must be made available upon request.

INSPECTION AND MAINTENANCE

Monitor sediment levels on the bottom of the structure to measure the loss of storage capacity due to enhanced sedimentation by the polymer mixture.

Non-Channel Erosion Mat (WDNR T.S. 1052)

DEFINITION

A protective soil cover made of straw, wood, coconut fiber or other suitable plant residue, or plastic fibers formed into a mat, usually with a plastic or biodegradable mesh on one or both sides. Rolled products are available in many varieties and combinations of material and with varying life spans.

PURPOSE

To protect the soil surface from the erosive effect of rainfall and prevent sheet erosion during the establishment of grass or other vegetation, and to reduce soil moisture loss due to evaporation. Applies to both Erosion Control Revegetative Mats (ECRM) and Turf-Reinforcement Mats (TRM).

CONDITIONS WHERE PRACTICE APPLIES

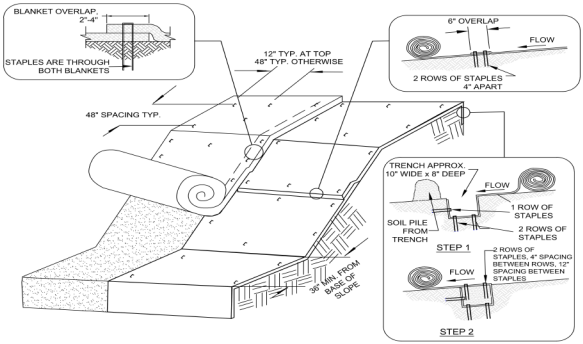
Erosion mats for use on erodible slopes. Not for channel erosion; for channel applications see WDNR T.S. Channel Erosion Mat (1053).

NON-CHANNEL EROSION CONTROL MAT INSTALLATION

- Use only products listed in the WisDOT PAL.
- Erosion mat shall be in firm and continuous contact with the soil and extend upslope one-foot from land disturbance.
- Where possible, use a single roll of EC mat to span the disturbed area.

NON-CHANNEL EROSION CONTROL MAT INSTALLATION

- Staples used for erosion mats shall be 1-2 inch wide, U-shaped, made of No.11 (3.05mm) or larger diameter steel wire, and not less than 6 inches long for firm soils and 12 inches long for loose soils.
- In areas with mowed turf or where animal entrapment is possible, use urban mats. Urban mats and associated anchoring devices shall be selected based upon the WisDOT PAL.
- Erosion mat shall be anchored, overlapped, staked and entrenched per the manufacturer's recommendations.
- This detail is an example of typical installation guidance.



INSPECTION AND MAINTENANCE

Install additional anchoring in areas of rilling and concentrated flow beneath the mat. If rilling is preventing vegetation establishment, remove erosion mat, regrade, compact, re-seed, and replace the section of mat.

Channel Erosion Mat (WDNR T.S. 1053)

DEFINITION

A protective soil cover of straw, wood, coconut fiber or other suitable plant residue, or plastic fibers formed into a mat, usually with a plastic or biodegradable mesh on one or both sides. Rolled products are available in many varieties and combination of materials and with varying life spans.

PURPOSE

To protect the channel from erosion or act as turf reinforcement during and after the establishment of grass or other vegetation in a channel. Applies to erosion control revegetative mats (ECRM) and turf-reinforcement mats (TRM).

CONDITIONS WHERE PRACTICE APPLIES

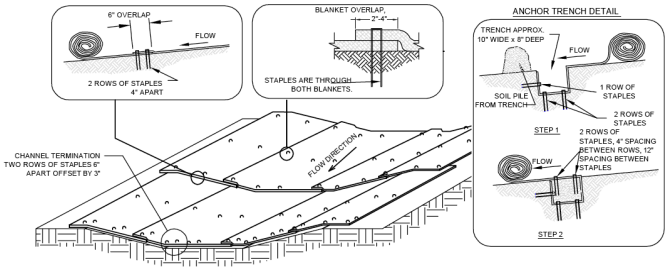
Where runoff channelizes in intermittent flow and vegetation is to be established. Some products may have limited applicability in projects adjacent to navigable waters due to potential wildlife entrapment.

- Use channel erosion mat products identified on the WisDOT PAL.
- Use WisDOT PAL classes and types to select and specify erosion mat.
- Select an erosion mat based on the calculated shear stress, given drainage area characteristics and channel geometry for the design storm depth.
- Select erosion mat that will last until turf grass or other vegetation becomes densely established.

CHANNEL EROSION MAT INSTALLATION

- Install and anchor erosion mat in accordance with manufacturer's instructions.
- At time of installation, retain material labels and manufacturer's installation instructions until the site has been stabilized.
- Install ECRMs after topsoil is placed and seeding is complete.
- Install TRMs in conjunction with placement of topsoil, followed by ECRM installation.
- Install erosion mat so that it bears completely on the soil surface.
- Use staples that are at least 6 inches long.

- This detail is an example of typical installation guidance.



INSPECTION AND MAINTENANCE

Install additional anchoring in areas of rilling and concentrated flow beneath the mat. If rilling is preventing vegetation establishment, remove erosion mat, regrade, compact, re-seed, and replace the section of mat.

Vegetative Buffer (WDNR T.S. 1054)

DEFINITION

An area of dense vegetation intended to slow runoff and trap sediment. Vegetative buffers are commonly referred to as filter or buffer strips.

PURPOSE

To remove sediment in sheet flow by velocity reduction.

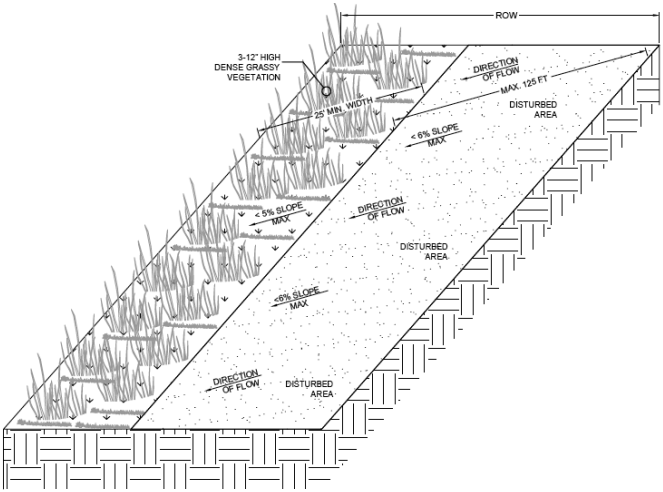
CONDITIONS WHERE PRACTICE APPLIES

Areas where sediment delivery is in the form of sheet and rill erosion from disturbed areas.

VEGETATIVE BUFFER INSTALLATION

- Shall consist of a dense stand of existing grassy vegetation or vegetation established during the project provided sufficient vegetative cover is established prior to land disturbing activities.
- Must be clearly marked as area of no disturbance, including vehicle traffic.
- Vegetative buffers are only effective if sheet flow conditions are present.

- This detail is an example of typical installation guidance.



INSPECTION AND MAINTENANCE

Look for improper distribution of flows, sediment accumulation, and rill erosion. If the vegetative buffer becomes sediment covered, shows rill erosion, or is ineffective, other practices must be implemented.

Sediment Bale Barrier (WDNR T.S. 1055)

DEFINITION

A temporary sediment barrier consisting of a row of entrenched and anchored straw bales, hay bales or equivalent material used to intercept sediment-laden sheet flow from small drainage areas of disturbed soil.

PURPOSE

To reduce slope length of the disturbed area and to intercept and retain transported sediment from disturbed areas.

CONDITIONS WHERE PRACTICE APPLIES

This standard applies to the following applications where:

- Erosion occurs in the form of sheet and rill erosion. There is no concentration of water flowing to the barrier (channel erosion).
- Where adjacent areas need protection from sediment-laden runoff.
- Effectiveness is required for less than 3 months.
- Conditions allow for the bales to be properly entrenched and staked as outlined in Criteria Section V of WDNR T.S. Sediment Bale Barrier (1055).

Under no circumstance shall products be used in the following applications:

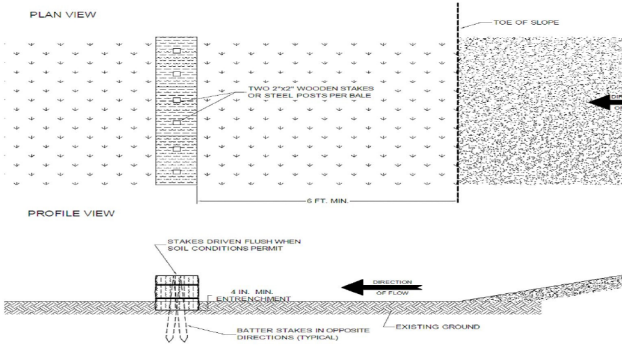
- Below the ordinary high watermark or placed perpendicular to flow in streams, swales, ditches or any place where flow is concentrated.
- Where the maximum gradient upslope of the fence is >50% (2:1).

SEDIMENT BALE BARRIER INSTALLATION

- Install materials per manufacturer's recommendations.
- When joints are necessary, overlap and secure to minimize potential for concentrated flow. Ends should tie into the slope to prevent erosion from concentrated flow around the ends.
- Should be used in conjunction with permanent restoration practices.
- When not used in conjunction with other practices, install spacing per:

Slope	Spacing
< 2 %	100 feet
2 - 5 %	75 feet
5 - 10 %	50 feet

- This detail is an example of typical installation guidance.



INSPECTION AND MAINTENANCE

Look for indicators that water is eroding around the ends, undercutting the barrier, or erosion is occurring downslope. Remove sediment from behind barrier when reaching 1/2 the height. Remove when permanent vegetation is established.

Silt Fence (WDNR T.S. 1056)

DEFINITION

Silt fence is a temporary sediment barrier of entrenched permeable geotextile fabric designed to intercept and slow the flow of sediment-laden sheet flow runoff from small areas of disturbed soil to create ponding.

PURPOSE

Reduce slope length and intercept and retain sediment from disturbed areas.

CONDITIONS WHERE PRACTICE APPLIES

This standard applies to the following applications where:

- Erosion occurs in the form of sheet and rill erosion. There is no concentration of water flowing to the barrier (channel erosion).
- Where adjacent areas need protection from sediment-laden runoff.
- Where effectiveness is required for one year or less.
- Where conditions allow for silt fence to be properly entrenched and staked as outlined in Criteria Section V of WDNR T.S. Silt Fence (1056).

Under no circumstance shall products be used in the following applications:

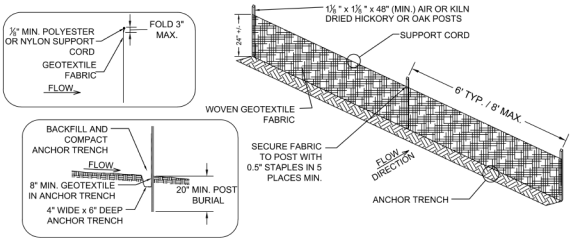
- Below the ordinary high watermark or placed perpendicular to flow in streams, swales, ditches or any place where flow is concentrated.
- Where the maximum gradient upslope of the fence is >50% (2:1).
- Lettering on the fence is not permissible on WisDOT projects.
- Must have support cord.

SILT FENCE INSTALLATION

- Construct in an arc with the ends pointing upslope to avoid erosion around ends of the fence. Best installation method is static slicing. Failure to properly anchor silt fence could result in water and sediment release beneath the silt fence. It is critical to backfill and compact the trench.
- Construct from a continuous roll of geotextile to avoid joints. Where joints are necessary, overlap to the next post or wrap adjoining fabrics together around the joint post and tightly fasten.
- When not used in conjunction with other practices and when using for slope interruption, install spacing per:

Slope	Fence Spacing
< 2 %	100 feet
2 - 5 %	75 feet
5 - 10 %	50 feet
10 - 33 %	25 feet
> 33 %	20 feet

- This detail is an example of typical installation guidance.



INSPECTION AND MAINTENANCE

Look for indicators that water is eroding around the ends, undercutting the barrier, or erosion downslope. Remove sediment behind silt fence when reaching 1/2 the height. Remove when permanent vegetation is established.

Trackout Control Practices (WDNR T.S. 1057)

DEFINITION

A practice or combination of practices used to prevent, reduce, or mitigate trackout of sediment.

GENERAL CRITERIA

Trackout is best managed by implementing controls in the order below:

1. Prevent trackout with stabilized work surfaces and reduced vehicle contact with soil;
2. Reduce trackout with stone tracking pad, manufactured trackout control devices, or tire washing;
3. Mitigate trackout with street cleaning.

INSTALLATION

Stabilized Work Surfaces

- Install aggregate, concrete, asphalt, manufactured mats, or other material in work areas and haul roads to minimize contact of vehicles with exposed soils and standing water.
- Stabilized work surfaces may be used as a stand-alone practice if vehicles leaving the site are restricted to the stabilized surface and the surface is properly maintained.

Stone Tracking Pads

- Install the stone tracking pad to ensure vehicles that drive over exposed soil exit along the full length of the pad.
- Use hard, durable, angular stone or recycled concrete meeting the gradation in Table 1. Driving surface shall be at least 12 feet wide, 1 foot thick and 50 feet long.
- Where warranted due to soil type or high groundwater, underlay the stone tracking pad with geotextile fabric to minimize migration of underlying soil into the stone. Select fabric type based on soil conditions and vehicle loading.
- Rocks lodged between the tires of dual wheel vehicles shall be removed prior to leaving the construction site.

Table 1

Sieve Size	% passing by weight
3"	100
2-1/2"	90-100
1-1/2"	25-60
3/4"	0-20
3/8"	0-5

Manufactured Trackout Control Devices

- Install the manufactured trackout control device on a surface capable of supporting anticipated loads per manufacturer recommendations.
- Provide a minimum device length of 32 feet for stand-alone installations.
- Add length if needed to reduce trackout in adverse conditions.

Tire Washing

- Shall be located on site in an area that is stabilized and drains into suitable sediment trapping or settling device;
- Monitor tire washing station for sediment accumulation, clogged hoses, appropriate water levels, and effectiveness.
- For manufactured tire washing stations, operate per manufacturer's recommendations.

Street/Pavement Cleaning

- Scrape and/or sweep pavements and gutters until a shovel-clean or broom-clean condition is obtained. Repeat as needed to maintain public safety and reduce sediment delivery to drainage infrastructure or water resources, and at the end of each work day.

Mulch (WDNR T.S. 1058)

DEFINITION

Mulching is the application of organic material to the soil surface to protect it from raindrop impact and overland flow. Mulch covers the soil and absorbs the erosive impact of rainfall and reduces the flow velocity of runoff.

PURPOSE

To reduce soil erosion, aid in seed germination and establish plant cover or conserve soil moisture.

CONDITIONS WHERE PRACTICE APPLIES

May be applied on exposed soils as a temporary control where soil grading or landscaping has taken place or in conjunction with temporary or permanent seeding. Mulching is not appropriate in areas of concentrated flow.

ACCEPTABLE MULCH TYPES

- Straw or hay in air-dry condition, wood excelsior fiber or wood chips, or other suitable material of a similar nature that the engineer approves. Use of marsh hay will not be accepted. All mulch material shall be free of noxious weeds and objectionable foreign matter.
- Wood chips or wood bark should be used for temporary stabilization only and should not be used in conjunction with seeding.

MULCH INSTALLATION

Prepare area to remove gullies/rills. If seeding, apply prior to mulch.

Wood Chips or Bark Mulch

- Apply at uniform rate of 9 tons/acre. Mulch should cover a minimum of 80% of the soil surface with an applied thickness of 0.5 - 1.5 inches.

Straw Mulch

- Apply at a uniform rate of 2 tons/acre. Mulch should cover a minimum of 70% of the soil surface with an applied thickness of 0.5 - 1.5 inches.
- If straw mulch is used without seeding, apply at a uniform rate of 3 tons/acre. Mulch should cover a minimum of 80% of the soil surface with an applied thickness of 1.5 - 3.0 inches.
- Anchor by crimping or with a tackifier.

Straw Mulch Crimping

- Just after spreading, anchor mulch using a crimper or equivalent device consisting of a series of dull flat discs with notched edges spaced approximately 8 inches apart to impress mulch in the soil to a depth of 1 - 3 inches.

Straw Mulch Tackifiers

- Select from the approved list in the WisDOT PAL. Apply at a uniform rate.
- Spray tackifier at the same time as the mulch application or just after. Do not spray during conditions preventing proper placement of adhesive.
- Apply at manufacturer's recommended rate or at the rate per acre specified below, whichever is greater:
    - » Latex base: mix 15 gallons adhesive and a minimum of 250 pounds recycled newsprint (pulp) as tracer with 375 gallons water;
    - » Guar gum: mix 50 pounds dry adhesive and a minimum of 250 pounds recycled newsprint (pulp) as tracer with 1,300 gallons water;
    - » Other tackifiers: mix 100 pounds dry adhesive and a minimum of 250 pounds recycled newsprint (pulp) as tracer with 1,300 gallons water.

INSPECTION AND MAINTENANCE

Reapply as needed.

Seeding (WDNR T.S. 1059)

DEFINITION

Planting seed to establish temporary/permanent vegetation for erosion control.

PURPOSE

Temporary Seeding reduces runoff and erosion until permanent vegetation or other erosion control practices can be established.

Permanent Seeding permanently stabilizes areas of exposed soil.

Nurse Crop is seeded with a permanent mix to provide fast-growing cover to protect the soil surface until permanent vegetation becomes established.

CONDITIONS WHERE PRACTICE APPLIES

Areas of exposed soil where the establishment of vegetation is desired.

- Temporary seeding: disturbed areas that will not be brought to final grade or on which land-disturbing activities will not be performed for a period greater than 30 days and requires vegetative cover for less than one year.
- Permanent seeding: where perennial vegetative cover is needed.

SEED

- Seed shall conform to WI statutes and WI Administrative Code ch. ATCP 20 regarding noxious weed seed content and labeling.
- Use seed within one year of test date appearing on the label.
- Store seed to protect it from damage by heat, moisture, rodents. Discard and replace previously tested and accepted seed that becomes damaged.

SEEDING INSTALLATION

Seedbed Preparation

- Permanent seeding needs a seedbed of at least 4 inches of loose topsoil.
- Necessity of fertilizer application should be based on soil testing results. Prior to seeding, work the area being seeded with appropriate equipment to prepare a tilled fine, but firm, seedbed. Remove rocks, twigs, foreign materials, and dirt clods >2 inches diameter that cannot be broken down.

Sowing

- Apply uniformly over the seedbed at the correct seeding rate. Appropriate seed mixes should be lightly incorporated into the seedbed.

DOT Seed Mixture	Sowing Rate [pounds/1,000 square feet]
10	1.5
20	3
30	2
40	2
60	equivalent seeding rate of 1.5
70 and 70A	0.4
75	0.7
80	0.8
Temporary Seeding	3
Nurse Crop Seeding	0.8

- Seed when soil temperatures remain consistently above 53° F. Avoid seeding during periods where seedlings could be damaged or killed by frost (usually late September to early November).
- Dormant seed after November 1. Do not sow seeds over snow cover.

Seed Protection

- Protect seed using mulch (WDNR T.S. 1058) or erosion mat (WDNR T.S. 1052). Limit vehicle traffic in areas that have been permanently seeded.

INSPECTION AND MAINTENANCE

Inspect per permit requirements. Verify seed germination and vegetation establishment. Maintenance includes reapplying mulch and matting, irrigating, regrading, and reseeding.

Storm Drain Inlet Protection (WDNR T.S. 1060)

DEFINITION

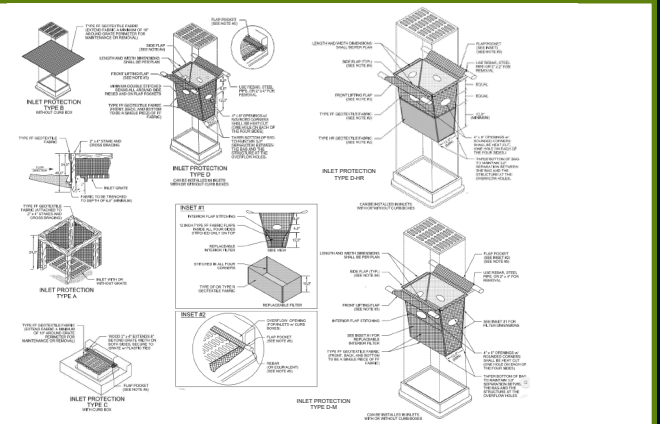
A temporary device installed around a storm drain inlet, drop inlet or curb inlet.

PURPOSE

To minimize sediment from entering storm drainage systems where the contributing drainage area is temporarily disturbed.

STORM DRAIN INLET PROTECTION GENERAL CRITERIA

- Inlet protection devices are for drainage areas of one acre or less.
- Runoff from areas >1 acre should be routed through a properly designed sediment trapping or settling practice upstream of the inlet.
- Inlet protection devices shall not interfere with the flow of traffic, create a safety hazard, or cause property damage.
- All devices shall have provisions such as overflow holes or “emergency spillways” to safely pass water if the device becomes clogged.
- No gaps shall be left in the material that would allow the flow of water to bypass the inlet protection device, except for overflow holes.
- All fabrics used as part of an inlet protection device must be selected from the list of Geotextile Fabric, Type FF in the WisDOT PAL. For Types D-M and D-HR inlet devices select Type F, R, DF or HR fabric inserts based on soil type.



TYPES B AND C

- Include a method of maintenance, using a sewn flap, hand holds, or other method to prevent sediment from entering the inlet.
- An additional 18 inches of fabric is wrapped around the wood and secured with staples. Wood shall not block the height of the curb box.

TYPE D, D-HR, & D-M

- Side flaps shall be a maximum of 2 inches long.
- Install >3 inch side clearance between the inlet walls and bag, measured at the bottom of the overflowing holes. Where necessary cinch the bag to achieve the 3 inch clearance. Place ties <4 inches from bottom of the bag.

INSPECTION AND MAINTENANCE

When removing or maintaining inlet protection, trapped sediment must not fall into the inlet. Remove fallen sediment immediately. Maintain when device is no longer functioning and dispose of sediment properly.

Dewatering (WDNR T.S. 1061)

DEFINITION

A practice or combination of practices that are used to prevent or reduce the discharge of sediment-laden water from dewatering operations.

PURPOSE

Land-disturbing construction activity can create conditions where runoff and/or groundwater accumulates in ponds, pits, trenches or other excavations and needs to be removed by pumping or other means of dewatering. The purpose of this standard is to identify common methods which may be used to prevent or reduce the discharge of sediment-laden water from dewatering operations.

CONDITIONS WHERE PRACTICE APPLIES

This standard applies where sediment-laden water needs to be removed by pumping or other means for construction operations or maintenance activities.

Dewatering practices shall meet criteria in the WDNR T.S. Dewatering (1061) Dewatering Practice Selection Matrix.

This practice does not apply to water being discharged directly to groundwater or karst features (see NR140) or well dewatering systems (see NR 812).

CONSIDERATIONS

- Municipal storm drainage system may need cleaning prior to/after discharging to prevent scouring solids from the drainage system.
- Do not use geotextile bags when discharging to Exceptional Resource Waters, Outstanding Resource Waters, waterbodies supporting cold water communities, trout streams, or susceptible wetlands.
- Pressurized filtration is most efficient for removing fine sediments.
- Portable sediment tanks may be appropriate when other sediment trapping practices cannot be installed.
- Filtration is not an efficient treatment of water with heavy sediment loads. Use a settling tank or sand filter as pretreatment when possible.
- Practices may need to be combined to achieve intended results.

DEWATERING INSTALLATION

- Select practices based on soil texture at the dewatering site with consideration of pumping or flow rates, volumes and device effectiveness.
- WDNR T.S. Dewatering (1061) Dewatering Practice Selection Matrix illustrates acceptable dewatering options and their effective ranges.
- Practices selected that are not on the matrix must provide an equivalent level of control, with justification provided to the reviewing authority.

INSPECTION AND MAINTENANCE

- If the dewatering effluent is discolored, has an odor, an oily sheen, or other toxins are present, notify the DNR immediately:
  - » **24 Hours Spills Reporting Hotline 1-800-943-0003**
- Remove sediment from devices. Properly dispose of all sediment collected.
- Document test results on a daily log and keep on site:
  - » Discharge duration and specified pumping rate;
  - » Observed water table at time of dewatering;
  - » If used, type and amount of chemical used for pH adjustment;
  - » If used, type and amount of polymer used for treatment;
  - » Maintenance activities.

DEWATERING PRACTICE SELECTION MATRIX Type of Device	Soil and Particle Size Classification		
	Coarse to Medium Sand, Loamy Sands, and Sandy Loams	Medium to Fine Loams, Silt Loams, and Silts	Fine to Very Fine Clay Loams, Silty Clays, and Clay
Clay Geotextile Bags			
Type I			
Type II			
Gravity Based Settling			
Sediment Tank (Portable)			
Sediment Trap (Temporary)			
Sediment Basin (Temporary)			
Wet Detention Basin (Permanent)			
Passive Filtration			
Filter Tank (Portable)			
Filter Basin			
Vegetative Filter			

Effective range of device:
Device applicable, may not be cost effective:
Effective range with addition of polymer:

(1) The effectiveness of many practices can be enhanced through the use of polymer mixture.
(2) Soil classification shall be done in accordance to an accepted method (i.e. USDA, AASHTO)

DEWATERING PRACTICE SELECTION MATRIX **Type of Device**	**Soil and Particle Size Classification**		
	Coarse to Medium Sand, Loamy Sands, and Sandy Loams	Medium to Fine Loams, Silt Loams, and Silts	Fine to Very Fine Clay Loams, Silty Clays, and Clay
Pressurized Filtration			
Portable Sand Filter			
Wound Cartridge Units			
Membranes and Micro-filtration			
Other Practices			
Sanitary Sewer Discharge			
Pump Truck			
Alternative Method	Discuss with regulatory authority.		

Effective range of device:
Device applicable, may not be cost effective:
Effective range with addition of polymer:

(1) The effectiveness of many practices can be enhanced through the use of polymer mixture.
(2) Soil classification shall be done in accordance to an accepted method (i.e. USDA, AASHTO)

Ditch Check (WDNR T.S. 1062)

DEFINITION

A temporary dam constructed across a swale, drainage ditch, channel or other area of concentrated flow to reduce the velocity of water. Ditch checks can be constructed out of stone, a double row of straw bales or from manufactured products found on the WisDOT PAL.

PURPOSE

To reduce flow velocity and to pond water, thereby reducing active channel erosion and promoting settling of suspended solids behind the ditch check.

GENERAL CRITERIA

- Ditch checks shall have a minimum height of 10 inches after installation.
- Ditch checks shall not cause ponding that adversely impact or damage adjacent areas.
- Design and install ditch checks to be capable of withstanding anticipated flow, volume and velocity.
- Do not use silt fencing or single rows of straw bales as ditch checks.
- Under no circumstance shall ditch checks be placed in intermittent or perennial stream without permission from WDNR. This practice may not be substituted for sediment control measures such as sediment basins.
- Do not use steel posts or rods to stake ditch checks to avoid safety hazards.

DESIGN CRITERIA

Use the following equation to calculate ditch check spacing in channels:

L = H / S

Where:

L = distance between ditch checks, in feet

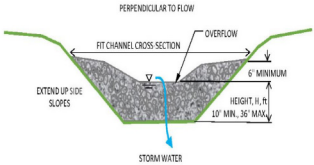
H = height of the ditch check measured from the ditch check overflow invert to the channel bottom on the downslope side of the ditch check, in feet.

S = longitudinal slope of the channel in decimal form (e.g. 2% = 0.02)

MANUFACTURED DITCH CHECKS

- Use products identified on the WisDOT PAL
- Shall be installed in accordance with manufacturer's recommendations
- Entrench manufactured products at least 2 inches or install over erosion matting

STONE DITCH CHECKS



Shall have a minimum top width of 2-ft with a maximum slope of 2:1 on the upslope and downslope sides. Stone shall meet any of the following criteria:

1. Well-graded angular stone with a D_{50} of 3 inches or greater with no more than 5% passing the #4 sieve.
2. 1-foot layer of 1-inch (#2) washed stone over 3 to 6-inch clear stone.
3. Angular stone meeting the gradation for WisDOT Specification 312 select crush or local equivalent.

Stone ditch checks may be constructed using bags or socks filled with stone.

INSPECTION AND MAINTENANCE

Look for indicators that water is eroding around the ends, undercutting, or erosion is occurring downslope. Remove sediment from behind ditch check when reaching 1/2 the height. Remove when channel permanent vegetation is established, unless part of a permanent plan.

Sediment Trap (WDNR T.S. 1063)

DEFINITION

A temporary sediment control device formed by excavation and/or embankment to intercept sediment-laden runoff and to retain the sediment.

PURPOSE

To detain sediment-laden runoff from disturbed areas for sufficient time to allow the majority of the sediment to settle out.

CONDITIONS WHERE PRACTICE APPLIES

- Areas of concentrated flow or points of discharge during construction activities. Construct sediment traps at locations accessible for clean out.
- Sediment traps are designed to be in place until the contributory drainage area has been stabilized.
- The contributory drainage area shall be a maximum of five acres. For concentrated flow areas smaller than one acre, ditch checks may be installed; refer to WDNR T.S. Ditch Check (1062).
- For larger drainage areas and/or for sediment basins requiring an engineered outlet structure refer to WDNR T.S. Sediment Basin (1064) or Wet Detention Basin (1001).

SEDIMENT TRAP CRITERIA

Timing

- Constructed prior to disturbance of up-slope areas and placed so they function during all phases of construction and in locations where runoff from disturbed areas can be diverted into the traps.
- Remove and stabilize the sediment trap after the disturbed area draining to sediment trap is stabilized.

Sizing Criteria

- Properly sized sediment traps are relatively effective at trapping medium and coarse-grained particles.
- To effectively trap fine-grained particles, the sediment trap must employ a large surface area or polymers.
- See WDNR T.S. Sediment Trap (1063) for specific design criteria. Based on:
  - » Surface area;
  - » Depth;
  - » Shape;
  - » Side slopes.

Embankments

- Not to exceed five feet in height measured from the downstream toe of the embankment to the top of the embankment. Construct with a minimum top width of four feet, and side slopes of 2:1 or flatter.
- Earthen embankments shall be compacted.
- Where sediment traps are employed as a perimeter control, the embankments shall have stabilization practices in place prior to receiving runoff.

Outlet

- Need both a principal outlet and emergency spillway and shall meet WDNR T.S. Sediment Trap (1063) design criteria.

INSPECTION AND MAINTENANCE

Remove and properly dispose of sediment deposits when it accumulates to a depth of one foot. Clean outlet when clogged.

Sediment Basin (WDNR T.S. 1064)

DEFINITION

A temporary or permanent device constructed with an engineered outlet, formed by excavation or embankment to intercept sediment-laden runoff and retain sediment.

PURPOSE

Detain sediment-laden runoff from disturbed areas for sufficient time to allow the majority of the sediment to settle out.

CONDITIONS WHERE PRACTICE APPLIES

- Utilize in areas of concentrated flow or points of discharge during construction activities. Construct at locations accessible for clean out.
- Site conditions must allow for runoff to be directed into the basin.
- Sediment basins are designed to be in place until the contributory drainage area has been stabilized. Temporary sediment basins serve drainage areas <100 acres (other practices are often more economical).
- For drainage areas <5 acres, sediment traps or ditch checks may be applicable; for design criteria refer to WDNR T.S. Sediment Trap (1063) or Ditch Check (1062). Design to WDNR T.S. Wet Detention Basin (1001) when a permanent stormwater basin is required.
- Minimum standards for design, installation and performance requirements are deemed 80% effective by design in trapping sediment.

SEDIMENT BASIN CRITERIA

Timing

- Construct prior to disturbance and place to function during all phases of construction, and in locations where runoff can be diverted into the basin.

Sizing Criteria

- Specific trapping efficiency varies based on the surface area and the particle size distribution of the sediment entering the device.
- Permanent sediment basins must be designed by an engineer.
- See WDNR T.S. Sediment Basin (1064) for specific design criteria. Based on:
  - » Treatment surface area and depth below treatment surface area;
  - » Active storage volume and shape.

Embankments

- Design earthen embankments to address potential risk and structural integrity issues such as seepage and saturation, and meet WDNR T.S. Sediment Basin (1064) design criteria.

Outlet

- Need both a principal outlet and an overflow spillway meeting WDNR T.S. Sediment Basin (1064) design criteria.

Inlet Protection

- Designed to prevent scour and reduce velocities during peak flows.
- Possible design options include flow diffusion, plunge pools, directional berms, baffles, or other energy dissipation structures.

Location

- Located to provide access for cleanout and disposal of trapped sediment.

Removal

- After the contributing drainage area has been stabilized, if temporary.
- Complete final grading and restoration according to the site plans. If standing water needs to be removed see WDNR T.S. Dewatering (1061).

INSPECTION AND MAINTENANCE

Remove and properly dispose of sediment to maintain three foot depth of the treatment surface area. Clean outlet when clogged.

Construction Site Diversion (WDNR T.S. 1066)

DEFINITION

A temporary berm or channel constructed across a slope to collect and divert runoff.

PURPOSE

To intercept, divert, and safely convey runoff at construction sites in order to divert clean water away from disturbed areas, or redirect sediment laden waters to an appropriate sediment control facility.

CONDITIONS WHERE PRACTICE APPLIES

- Where temporary surface water runoff control or management is needed.
- Locations and conditions include:
  - » Above disturbed areas, to limit runoff onto the site;
  - » Across slopes to reduce slope length;
  - » Below slopes to divert excess runoff to stabilized outlets;
  - » To divert sediment-laden water to sediment control facilities;
  - » At or near the perimeter of the construction area to keep sediment from leaving the site.
- Does not pertain to permanent diversions. Refer to appropriate design criteria and local regulations when designing permanent diversions.

CONSTRUCTION SITE DIVERSION INSTALLATION

- Shall have stable side slopes and shall not be overtopped during a 2-year frequency, 24-hour duration storm.
- The minimum berm cross section shall be as follows:
  - » Side slopes of 2:1 (horizontal:vertical) or flatter;
  - » Top width of two feet;
  - » Berm height of 1.5 feet.
- Sediment-laden runoff from disturbed areas shall be diverted into a sediment control practice. For typical sediment control practices see WDNR T.S. Sediment Trap (1063) or Sediment Basin (1065) for design criteria.
- When diverting clean water, the diversion channel and its outfall shall be immediately stabilized for the 2-year frequency, 24-hour duration storm.
- Build and stabilize clean water diversions before initiating down slope land-disturbing activities.
- Diversions shall be protected from damage by construction activities.
- At all points where diversion berms or channels will be crossed by construction equipment, the diversion shall be stabilized or shaped appropriately.
- Temporary culverts of adequate capacity may be used.
- For diversions that are to serve longer than 30 days, the side slopes including the ridge, and down slope side of the diversion shall be stabilized as soon as they are constructed.
- For diversions serving less than 30 days, the down slope side of the diversion shall be stabilized as soon as constructed.
- The diversion channel should be stabilized (i.e. erosion mat) or an additive sediment control practice, such as ditch checks, shall be installed.

INSPECTION AND MAINTENANCE

Remove sediment from behind diversion berm when reaching 1/2 the height.

Grading Practices for Erosion Ctrl. (WDNR T.S. 1067)

DEFINITION

Temporary grading practices used to minimize construction site erosion. These practices include, but are not limited to surface roughening (directional tracking and tillage) and temporary ditch sumps.

PURPOSE

To minimize erosion and sediment transport during grading operations on construction sites.

CONDITIONS WHERE PRACTICE APPLIES

Where land disturbing activities occur on construction sites, to be used in conjunction with other erosion control practices.

TEMPORARY GRADING PRACTICES INSTALLATION

- These interim practices may be employed in addition to the approved grading plan to reduce erosion and sediment transport.

Surface Roughening

- Abrading the soil surface with horizontal ridges and depressions across the slope to reduce runoff velocities.
    - » Directional tracking: the process of creating ridges with tracked vehicles by driving up and down unvegetated slopes, used for short durations on sites actively being graded. Use in conjunction with other practices, and place at the end of each workday;
    - » Tillage: utilizing conventional tillage equipment to create a series of ridges and furrows on the contour no more than 15 inches apart.

Temporary Ditch Sump

- » Temporary ditch sumps are ½ to 5 cubic yard excavations made in a drainageway during earthmoving operations. Their purpose is to slow and pond runoff during the time that drainageways are being graded;
- » Place sumps prior to anticipated rain events;
- » Construction involves excavating sumps in the rough ditch grade, and using the excavated material to form a dike on the downstream side of the sump;
- » Temporary ditch sumps are not effective perimeter controls. Utilize other sediment control practices prior to channels discharging into public waterways.

INSPECTION AND MAINTENANCE

Inspect and repair/reinstall after every runoff event.

Dust Control (WDNR T.S. 1068)

DEFINITION

Dust control includes practices used to reduce or prevent the surface and air transport of dust during construction. Includes minimization of soil disturbance, applying mulch and establishing vegetation, water spraying, surface roughening, applying polymers, spray-on tackifiers, chlorides, and barriers.

PURPOSE

- Reduce wind erosion and dust.
- Minimize deposition of dust and wind transported soils into water bodies through runoff or wind action.
- Reduce respiratory problems.
- Minimize low visibility conditions caused by airborne dust.

CONDITIONS WHERE PRACTICE APPLIES

At any construction site, but is particularly important for sites with dry exposed soils which may be exposed to wind or vehicular traffic.

DUST CONTROL INSTALLATION

- Implementation limits the area exposed for dust generation.
- Asphalt and petroleum based products cannot be used.

Mulch and Vegetation

- Mulch or seed and mulch may be applied to protect exposed soil from both wind and water erosion. Refer to WDNR T.S. Mulching (1058) and Seeding (1059) for criteria.

Water

- Water until the surface is wet and repeat as needed, applied at rates so that runoff does not occur. Treated soil surfaces that receive vehicle traffic require a stone tracking pad or tire washing at all point of egress. Refer to WDNR T.S. Trackout Control Practices (1057) for criteria.

Tillage

- Performed with chisel type plows on exposed soils, beginning on the windward side of the site. Only applicable to flat areas.

Additives

- Can be effective for areas that do not receive vehicle traffic. Dry applied additives must be initially watered for activation to be effective for dust control. Refer to WDNR T.S. Land Applied Additives for Erosion Control (1050) for criteria.

Tackifiers and Soil Stabilizers Type A

- Products must be selected from and installed at rates conforming to the WisDOT PAL. Example products include Latex-based and Guar Gum.

Chlorides

- Apply according to the Wis DOT Standard Specifications for Highway and Bridge Construction.

Barriers

- Place barriers at right angles to prevailing wind currents at intervals of about 15 times the barrier height. Solid board fences, snow fences, burlap fences, crate walls, bales of hay and similar material can be used to control air currents and blown soil.

INSPECTION AND MAINTENANCE

Inspect daily at a minimum.

Turbidity Barriers (WDNR T.S. 1069)

DEFINITION

A temporary fabric barrier with low permeability, installed parallel to the flow in or near the bed of a waterway or waterbody to minimize sediment transport.

PURPOSE

To provide sediment containment while construction activities are occurring in or directly adjacent to a waterway or waterbody.

CONDITIONS WHERE PRACTICE APPLIES

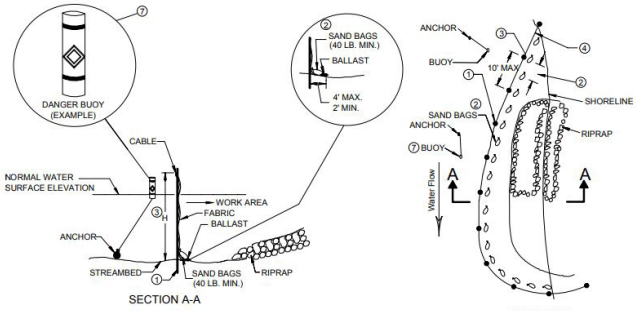
Where construction activities intrude or are directly adjacent to a waterway or waterbody. This includes but is not limited to bridge construction, rip rap placement, utility work, streambank restoration, boat launches and dredging. Use in conditions with fine soils and flow velocities not exceeding 5 feet per second, unless additional reinforcement is installed.

MATERIAL NOTES

- Reusable components of the turbidity barrier shall be clean and free of potential exotic species. Fabric cannot be reused.
- See WDNR T.S. Turbidity Barrier (1069) for detailed material specifications, per Wis DOT Spec 628.2.10.

TURBIDITY BARRIERS INSTALLATION

- Refer to WDNR T.S. Turbidity Barriers (1069) for specific criteria.
- Install before construction activities are initiated in, or adjacent to the waterway or waterbody, as close to the construction as practical.
- The ends of the barrier shall be securely anchored and keyed into the shoreline to fully enclose the area where sediment may enter the water.
- Follow guidelines outlined in WDNR T.S. Turbidity Barriers (1069) regarding posts and spacing, flotation devices, height, anchorage, and danger buoys.
- Turbidity barriers shall be installed parallel to the direction of flow and shall not be installed across channels.
- Keep in place and maintain until the construction activity is completed and the disturbed area stabilized.
- This detail is an example of typical installation guidance.



INSPECTION AND MAINTENANCE

Inspect daily and repair if necessary. Do not remove until the water behind the barrier has equal or greater clarity than the waterbody (minimum of 24 hours). When removing the silt curtain, minimize the release or re-suspension of accumulated sediment.

Silt Curtain (WDNR T.S. 1070)

DEFINITION

A temporary permeable fabric installed in a waterway or waterbody to minimize sediment transport. A silt curtain does not extend to the bottom of the channel and is placed parallel or perpendicular to the direction of flow. Use in calm, slow-moving water conditions.

PURPOSE

To provide sediment containment while construction activities are occurring in or directly adjacent to a waterway or waterbody.

CONDITIONS WHERE PRACTICE APPLIES

- Calm water conditions, not subjected to wind, wave, or current.
- To settle out coarse and granular soils where water depth at the time of construction is greater than or equal to 4 feet.
- For applications in finer sediment or moving water see WDNR T.S. Turbidity Barrier (1069).

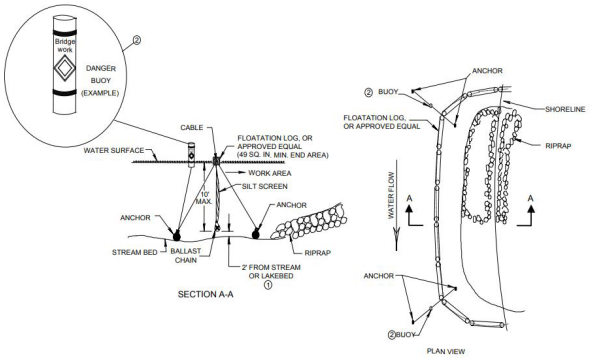
MATERIAL NOTES

- Reusable components of the silt curtain system shall be clean and free of potential exotic species. Fabric cannot be reused.
- See WDNR T.S. Silt Curtain (1070) for detailed material specifications.

SILT CURTAIN INSTALLATION

Installation

- Refer to WDNR T.S. Silt Curtain (1070) for specific criteria.
- Install in or adjacent to the waterway or waterbody before construction activities begin. Install as close to the construction as practical.
- Maintain a 2-foot gap between the weighted lower end of the curtain and the bottom of the waterway or waterbody.
- Follow guidelines outlined in WDNR T.S. Silt Curtain (1070) regarding anchorage and danger buoys.
- Must remain in place and be maintained until the construction activity is completed and the disturbed area is stabilized.
- This detail is an example of typical installation guidance.



INSPECTION AND MAINTENANCE

Inspect daily and repair if necessary. Do not remove until the water behind the curtain has equal or greater clarity than waterbody (minimum 24 hours). When removing the silt curtain, minimize the release or re-suspension of accumulated sediment.

Manufactured Slope & Perimeter (WDNR TS. 1071)

DEFINITION

Manufactured perimeter control and slope interruption products are designed to detain or slow the flow of sediment-laden sheet flow runoff from small areas of disturbed soil.

PURPOSE

To reduce uninterrupted slope length to slow the velocity of runoff so as to retain transported sediment from disturbed areas.

CONDITIONS WHERE PRACTICE APPLIES

This standard applies to the following:

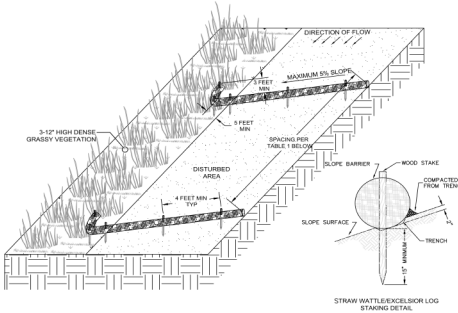
- Where only sheet and rill erosion occurs unless the product is approved for use in concentrated flow areas as a ditch check on Wis DOT PAL and is designed/installed in accordance with WDNR T.S. Ditch Checks (1062).
- Products not approved for concentrated flow that are installed on slopes that terminate in a channel shall be installed no lower than 6 inches above the design flow depth of the channel, limited to 12 months.
- Proper installation (Criteria Section V) and maintenance (Criteria Section VIII) in WDNR T.S. Temporary Slope Break (1071) must be present.

Under no circumstance should products be used in the following:

- Below ordinary high watermark or placed perpendicular to flow in streams.
- Where the maximum gradient upslope of product is greater than 50% (2:1).

TEMPORARY SLOPE BREAKS INSTALLATION

- Proprietary products shall be installed per manufacturer's requirements.
- Installed to intercept sheet water flow and direct to an undisturbed area stabilized with grassy vegetation. Entrench 2 inches with the ends facing upslope. Configure lower end to provide sediment containment.
- The sediment barrier shall be secured with wooden stakes spaced every 4 lineal feet across the length of the barrier. The stakes shall be driven through the center of the barrier into the ground a minimum of 15 inches
- This detail is an example of typical installation guidance.



Slope	Slope Break Spacing
< 2 %	100 feet
2 - 5 %	75 feet
5 - 10 %	50 feet
10 - 33 %	25 feet
33 - 50 %	20 feet
>50 %	Not Permitted

INSPECTION AND MAINTENANCE

Remove sediment from behind ditch check when reaching 1/2 the height.

Channel Erosion Control Matrix

CHANNEL EROSION CONTROL MATRIX **Type of Device**	Ditch Grade								
	4% - 6%			6% - 9%			9% - 12%		
	Max Length [feet]			Max Length [feet]			Max Length [feet]		
	300	600	1200	300	600	1200	300	600	1200
Seed with properly anchored mulch									
Sod ditch checks with seed and mulch									
Temporary ditch checks (hay bales or approved alternatives in WisDOT PAL)									
Sod ditch liner									
Double netted light duty (WisDOT Class I Type B) erosion mat	🟧								
Sod reinforced with a double netted jute (WisDOT Class II Type A) erosion mat									
Stone or rock ditch checks, or rock-filled filter bag	🟧	🟧	🟧						
Medium duty coconut erosion mat (WisDOT Class II Type B or C)	🟧	🟧	■	🟦					

Effective range of device for Sandy or Clayey Soil: 🟧
Device applicable, may not be cost effective: 🟦
Not applicable. Use in conjunction with other BMP's: ■

* For ditch grades over 9% special design considerations may be required.
*Use matrix in conjunction with notes on Page 57.

CHANNEL EROSION CONTROL MATRIX

Type of Device

Type of Device	Permissible Shear [lbs/ square foot]	Ditch Grade <2% Max Length [feet] 300	<2% Max Length [feet] 600	<2% Max Length [feet] 1200	2% - 4% Max Length [feet] 300	2% - 4% Max Length [feet] 600	2% - 4% Max Length [feet] 1200
Seed with properly anchored mulch	0.6						
Sod ditch checks with seed and mulch	N/A					effective for clayey soil only	
Temporary ditch checks (hay bales or approved alternatives in WisDOT PAL)	N/A						
Sod ditch liner	1.0						
Double netted light duty (WisDOT Class I Type B) erosion mat	1.5						
Sod reinforced with a double netted jute (WisDOT Class II Type A) erosion mat	1.5						
Stone or rock ditch checks, or rock-filled filter bag	N/A						
Medium duty coconut erosion mat (WisDOT Class II Type B or C)	2.0						

Effective range of device for Sandy or Clayey Soil:
Device applicable, may not be cost effective:
Not applicable. Use in conjunction with other BMP's:

* For ditch grades over 9% special design considerations may be required.
*Use matrix in conjunction with notes on Page 57.

Channel Erosion Control Matrix

CHANNEL EROSION CONTROL MATRIX **Type of Device**	Ditch Grade								
	4% - 6%			6% - 9%			9% - 12%		
	Max Length [feet]			Max Length [feet]			Max Length [feet]		
	300	600	1200	300	600	1200	300	600	1200
Heavy duty synthetic (WisDOT Class III Type A) erosion mat or turf reinforcement mat (WisDOT Class III Type B)	🟧	🟧	🟧	🟧					
Heavy duty synthetic turf reinforcement (WisDOT Class III Type C) mat	🟦	🟦	🟦	🟧	🟧	🟧	🟧		
Riprap ditch checks	🟦	🟦	🟦	🟧	🟧	🟧	🟧	🟧	
Heavy duty synthetic turf reinforcement (Class III Type D) mat	🟧	🟧	🟧	🟧	🟧	🟧	🟧	🟧	🟧
Light riprap	🟦	🟦	🟦	🟦	🟦	🟦	🟦	🟦	
Medium riprap	🟦	🟦	🟦	🟦	🟦	🟦	🟦	🟦	🟦
Heavy riprap	🟦	🟦	🟦	🟦	🟦	🟦	🟦	🟦	🟦
Grouted riprap	🟦	🟦	🟦	🟦	🟦	🟦	🟦	🟦	🟦

Effective range of device for Sandy or Clayey Soil:	🟧
Device applicable, may not be cost effective:	🟦
Not applicable. Use in conjunction with other BMP's:	■

* For ditch grades over 9% special design considerations may be required.

*Use matrix in conjunction with notes on Page 57.

CHANNEL EROSION CONTROL MATRIX **Type of Device**	Permissible Shear [lbs/ square foot]	Ditch Grade					
		<2%			2% - 4%		
		Max Length [feet]			Max Length [feet]		
		300	600	1200	300	600	1200
Heavy duty synthetic (WisDOT Class III Type A) erosion mat or turf reinforcement mat (WisDOT Class III Type B)	2.0						
Heavy duty synthetic turf reinforcement (WisDOT Class III Type C) mat	3.5						
Riprap ditch checks	N/A						
Heavy duty synthetic turf reinforcement (Class III Type D) mat	5						
Light riprap	4						
Medium riprap	5						
Heavy riprap	8						
Grouted riprap	N/A						

Effective range of device for Sandy or Clayey Soil:
Device applicable, may not be cost effective:
Not applicable. Use in conjunction with other BMP's:

* For ditch grades over 9% special design considerations may be required.
*Use matrix in conjunction with notes on Page 57.

Channel Erosion Control Matrix

CHANNEL EROSION CONTROL MATRIX **Type of Device**	Permissible Shear [lbs/ square foot]	**Ditch Grade**								
		< 6%			6% - 9%			9% - 12%		
		Max Length [feet]			Max Length [feet]			Max Length [feet]		
		300	600	1200	300	600	1200	300	600	1200
Articulated Concrete Block Type A	5	🟦	🟦	🟦						
Articulated Concrete Block Type B	10	🟦	🟦	🟦	🟦	🟦	🟦	🟦		
Articulated Concrete Block Type C	15	🟦	🟦	🟦	🟦	🟦	🟦	🟦	🟦	🟦
Articulated Concrete Block Type D	20	🟦	🟦	🟦	🟦	🟦	🟦	🟦	🟦	🟦
Articulated Concrete Block Type E	30	🟦	🟦	🟦	🟦	🟦	🟦	🟦	🟦	🟦

Effective range of device for Sandy or Clayey Soil: 🟧
Device applicable, may not be cost effective: 🟦
Not applicable. Use in conjunction with other BMP's: ■

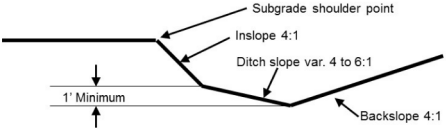
* For ditch grades over 9% special design considerations may be required.
*Use matrix in conjunction with notes on Page 57.

NOTES FOR THE CHANNEL EROSION CONTROL MATRIX

1) Ditch flow rates used to develop bar chart are based on a 60 foot right of way (ROW) from pavement centerline and a 2-year rainfall event for temporary liners or a 25-year rainfall event for permanent (Class III mat or riprap) liners. If the drainage area extends outside the 60 foot ROW or unusual flows are expected, use the shear stress column values to determine the suitablity of a liner. See FDM procedures in Chapter 10 and in Section 13-30-10.
2) Erosion mats shall extend upslope 1 foot minimum vertically from the ditch bottom or 6" higher than the design flow depth. There shall be no joints within 18" of the low point.
3) Cost shall be a consideration in the selection of these devices.
4) Add sediment traps at the bottom of channel slopes.
5) Refer to FDM Chapter 10 for any channels exceeding the limits shown.
6) Approved materials for erosion products are referenced from the Wis DOT PAL: https://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrces/tools/pal/default.aspx
7) On long or steep channels that require a higher class mat, use the appropriate lower class mat for the first 300-600 feet of the channel.
8) Effective erosion control involves minimizing the amount of time soil is exposed and the selection of a combination of practices, and not reliance on just one practice.

STANDARD DITCH SECTION

Erosion control for ditches not conforming to the typical at right, that complies with FDM procedures 11-15-1 Figures 6 & 7 should be designed according to FDM Chapter 13.



Slope Erosion Control Matrix

SLOPE EROSION CONTROL MATRIX **Type of Device**	**Slope**								
	2.5:1			2:1			1:1		
	Slope Length [feet]			Slope Length [feet]			Slope Length [feet]		
	0-30	30-60	60-120	0-30	30-60	60-120	0-30	30-60	60-120
Seed with properly anchored mulch									
Single netted light duty (WisDOT Class I Type A) erosion mat	🟧	🟧							
Light duty single netted 100% biodegradeable (WisDOT Urban Type A) erosion mat									
Light duty double netted 100% biodegradeable (WisDOT Urban Type B) erosion mat	🟦								
Bonded Mulch (WisDOT Type A Soil Stabilizer)									
Polymer (WisDOT Type B Soil Stabilizer)	Used in conjunction with other BMPs effective up to a 2:1 slope. Not effective in sand. When used alone effective up to a 3:1 slope. Stand alone use appropriate for earthen stock piles, temporary, and late season applications.								
Double netted light duty (WisDOT Class I Type B) erosion mat	🟧	🟧	▨	🟧					
Sod	🟧	🟧	▨	🟧					

Effective range of device for Sandy or Clayey Soil:	🟧
Device applicable, may not be cost effective:	🟦
Not applicable. Use in conjunction with other BMPs:	▨

* For ditch grades over 9% special design considerations may be required.

*Use matrix in conjunction with notes on Page 62.

SLOPE EROSION CONTROL MATRIX

Type of Device	Slope								
	6:1 or flatter			4:1			3:1		
	Slope Length [feet]			Slope Length [feet]			Slope Length [feet]		
	0-30	30-60	60-120	0-30	30-60	60-120	0-30	30-60	60-120
Seed with properly anchored mulch									
Single netted light duty (WisDOT Class I Type A) erosion mat									
Light duty single netted 100% biodegradeable (WisDOT Urban Type A) erosion mat									
Light duty double netted 100% biodegradeable (WisDOT Urban Type B) erosion mat									
Bonded Mulch (WisDOT Type A Soil Stabilizer)									
Polymer (WisDOT Type B Soil Stabilizer)	Used in conjunction with other BMPs effective up to a 2:1 slope. Not effective in sand. When used alone effective up to a 3:1 slope. Stand alone use appropriate for earthen stock piles, temporary, and late season applications.								
Double netted light duty (WisDOT Class I Type B) erosion mat									
Sod									

Effective range of device for Sandy or Clayey Soil:
Device applicable, may not be cost effective:
Not applicable. Use in conjunction with other BMPs:

* For ditch grades over 9% special design considerations may be required.
*Use matrix in conjunction with notes on Page 62.

Slope Erosion Control Matrix

SLOPE EROSION CONTROL MATRIX **Type of Device**	**Slope**								
	2.5:1			2:1			1:1		
	Slope Length [feet]			Slope Length [feet]			Slope Length [feet]		
	0-30	30-60	60-120	0-30	30-60	60-120	0-30	30-60	60-120
Medium duty coconut erosion mat (WisDOT Class II Type B or C)	🟧	🟧	🟧	🟧	🟧				
Sod reinforced with a double netted jute (WisDOT Class II Type A) erosion mat	🟧	🟧	■	🟧	🟧				
Heavy duty synthetic erosion control revegetation mat (WisDOT Class III Type A)	🟦	🟦	🟦	🟧	🟧	🟧			
Riprap	🟦	🟦	🟦	🟧	🟧	🟧			
Heavy duty synthetic turf reinforcement (WisDOT Class III Type B or C) mat	🟦	🟦	🟦	🟧	🟧	🟧	🟧		
Heavy duty synthetic turf reinforcement (WisDOT Class III Type D) mat	🟦	🟦	🟦	🟧	🟧	🟧	🟧	🟧	🟧
Slope paving or grouted riprap	🟦	🟦	🟦	🟦	🟦	🟦	🟦	🟦	🟦

Effective range of device for Sandy or Clayey Soil: 🟧
Device applicable, may not be cost effective: 🟦
Not applicable. Use in conjunction with other BMPs: ■

* For ditch grades over 9% special design considerations may be required.
*Use matrix in conjunction with notes on Page 62.

SLOPE EROSION CONTROL MATRIX **Type of Device**	Slope								
	6:1 or flatter			4:1			3:1		
	Slope Length [feet]			Slope Length [feet]			Slope Length [feet]		
	0-30	30-60	60-120	0-30	30-60	60-120	0-30	30-60	60-120
Medium duty coconut erosion mat (WisDOT Class II Type B or C)									
Sod reinforced with a double netted jute (WisDOT Class II Type A) erosion mat									
Heavy duty synthetic erosion control revegetation mat (WisDOT Class III Type A)									
Riprap									
Heavy duty synthetic turf reinforcement (WisDOT Class III Type B or C) mat									
Heavy duty synthetic turf reinforcement (WisDOT Class III Type D) mat									
Slope paving or grouted riprap									

Effective range of device for Sandy or Clayey Soil:
Device applicable, may not be cost effective:
Not applicable. Use in conjunction with other BMPs:

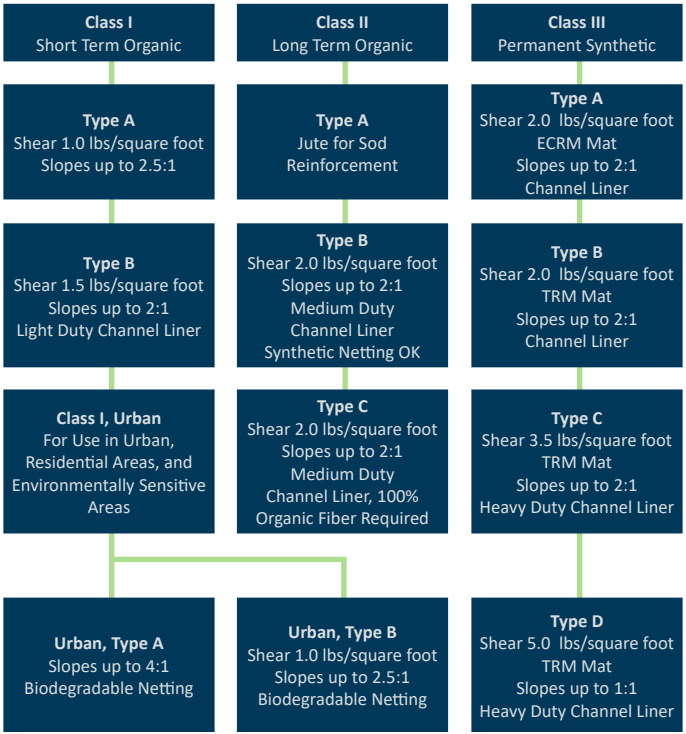
* For ditch grades over 9% special design considerations may be required.
*Use matrix in conjunction with notes on Page 62.

SLOPE EROSION CONTROL MATRIX	**Erosion Control**
Benches	Consider benches when cuts exceed 20', bench at approximately 15' vertical intervals to collect and drain water. Treat benches as channels (ditches). Adjust elevations to provide drainage. Consider flumes at transitions.
Intercepting embankments	Used to intercept runoff from abutting lands. Flumes may be necessary to direct runoff.
Silt fence	Used at toe of slopes to intercept and detain small amounts of sediment. Use only Wis DOT approved silt fence as listed in the PAL.
Temporary ditch checks or erosion bales	Used at toe of slopes to intercept and detain small amounts of sediment.
Slope drains/flumes	May be necessary on slopes (see channel matrix for design guidance).
Sediment traps	Used to trap sediment laden runoff. Could be used at the inlet or outlet end of slope drain.

NOTES FOR THE SLOPE EROSION CONTROL MATRIX

1) Cost shall be a consideration in the selection of these devices.
2) Designers should review FDM Chapter 10 prior to selection of erosion mats.
3) Install intercepting ditches to limit slope lengths to 15' vertical intervals (see FDM Chapter 10).
4) Refer to FDM Chapter 10 for any slopes exceeding the limits shown.
5) Approved materials for erosion products are referenced from the Wis DOT PAL: https://wisconsindot.gov/Pages/doing-bus/eng-consultants/cnslt-rsrces/tools/pal/default.aspx
6) On steeper slopes that require a higher class mat, use the appropriate lower class mat or seed and mulch for the first 30-60 feet of the slope.
7) Unless project conditions require otherwise, seed and mulch all slopes that are flatter than a 5% grade, regardless of length. If practicable, bench the slopes.
8) Effective erosion control involves minimizing the duration of soil exposure and the selection of a combination of practices, and not reliance on just one practice.

WisDOT Erosion Mat Categories



General Inspection and Maintenance Guidance

- The environmental monitor will inspect erosion and sediment control practices a minimum of:
  - Once a week;
  - Within 24 hours following a rainfall of 0.5 inches or more.
- Take corrective action as soon as possible with consideration of site conditions, at the most within 24 hours of the inspection.
- Maintain written documentation of the inspection at the construction site describing:
  - Date, time, and location of construction site inspection;
  - Name of individual performing inspection;
  - Assessment of the condition of erosion and sediment controls;
  - Description of any corrective erosion and sediment control implementation or maintenance performed;
  - Description of the current location and phase of land disturbing activity.
- For a sample construction site inspection report form: **https://dnr.wi.gov/files/PDF/forms/3400/3400-187.pdf**

State of Wisconsin
Department of Natural Resources (DNR)
PO Box 7921, Madison WI 53707-7921
dnr.wi.gov

CONSTRUCTION SITE INSPECTION REPORT

Form 3400-187 (R 11/16)

Notice: This form was developed in accordance with s. NR 216.48 Wis. Adm. Code for WPDES permittees' convenience; however, use of this specific form is voluntary. Multiple copies of this form may be made to compile the inspection report. Inspections of the construction site and implemented erosion and sediment control best management practices (BMPs) must be performed weekly and within 24 hours after a rainfall event 0.5 inches or greater.

Construction Site Name and Location (Project, Municipality, and County):	**Site/Facility ID No. (FIN):**
Onsite Contact/Contractor:	**Onsite Phone/Cell:**

Note: Inspection reports, along with erosion control and storm water management plans, are required to be maintained on site in accordance with s. NR 216.48 (4) and made available upon request. PLEASE PRINT LEGIBLY.

Date of inspection:	**Time of inspection:** **Start:** _____ ◯ **am** ◯ **pm** **End:** _____ ◯ **am** ◯ **pm**	**Type of inspection:** ◯ **Weekly** ◯ **Precipitation Event** ◯ **Other (specify)**
Weather/Site Conditions: **Temp.** _____ **°F** **Antecedent Soil Moisture** **Last Rainfall Depth:** _____ **inches** **Last Rainfall Date:** _____	◯ **Dry** ◯ **Variable** ◯ **Wet** ◯ **Frozen or snow covered** ◯ **Frozen (Thaw predicted in next week)** ◯ **Melting Snow/slush**	**Describe current phase of construction:** Scheduled Final Stabilization Date for Universal Soil Loss Equation (USLE) [1] : **Project on Schedule[2]?** ◯ **Yes** ◯ **No**
Name(s) of individual(s) performing inspection:		**Inspector Phone/Cell:**

I certify that the information contained on this form is an accurate assessment of site conditions at the time of inspection:

Inspector Signature _____ **Date:** _____

Inspection Questions:	**Yes**	**No (Identify Actions Required):**	**Location/Comments:**	**Actions Completed by Date & Initials**
1. Is the erosion control plan accessible to operators?	☐	☐ Provide onsite copy		
2. Is the permit certificate posted where visible?	☐	☐ Post certificate		
3. Is the current phase of construction on sequence with the site-specific erosion and sediment control plan, including installation/stabilization of ponds and ditches?	☐	☐ Add sediment control ☐ Install missing ditch/pipe/pond ☐ Stabilize bare soil		
4. Are all erosion and sediment control BMPs shown on plan properly installed and in functional condition?	☐	☐ Repair ☐ Modify ☐ Install/Replace		
5. Is inlet protection properly installed and functioning in all inlets likely to receive runoff from the site?	☐	☐ Clean ☐ Replace ☐ Install		
6. Is the air free of fugitive dust resulting from construction activity and bare soil exposure?	☐	☐ Apply water ☐ Apply dust control product		

[1] The Universal Soil Loss Equation (USLE) model and the Construction Site Soil Loss and Sediment Discharge Guidance are available at: http://dnr.wi.gov/topic/stormwater/standards/const_standards.html
[2] If the project is not on schedule then the soil loss summary for the project should be reviewed and schedule, plan or practices modified accordingly.

Many thanks to Emmons and Olivier Resources for donating staff time and resources to develop this guide.

(608) 839-4422 | www.eorinc.com

Visit us online to see upcoming training events and professional development opportunities.
www.nasecawi.org

APPENDIX E-28 Reservoir Flow Routing Model

Technical Memorandum

To:	Xcel Energy Corporation Scott Crotty, Senior Operations Manager
From:	Connor Collies
Reviewed by:	Shawn Puzen, Project Manager Jesse Piotrowski, PE, CFM
Date:	August 16, 2023
Subject:	Gile Reservoir Flow Routing Model

1. Introduction and Background

Xcel Energy Corporation (Xcel) is in the process of licensing the Gile Flowage Storage Reservoir Project (GSR), Federal Energy Regulatory Commission (FERC) Project No. 15055-000, located on the West Fork of the Montreal River in Iron County, Wisconsin. As part of the proposed study plan (PSP) and revised study plan (RSP) development, Xcel received comments from the River Alliance of Wisconsin (RAW) regarding identification of issues associated with study requests. In their March 17, 2021, letter, RAW requested Xcel develop a Reservoir/Flow Routing Model, describing the goals and objectives as follows:

> The goal of the study is to identify alternative drawdown scenarios that compare power generation (KWs) with other uses of the GSR including recreational use and protection of the aquatic community and the habitats upon which they depend […]
> The modeling would provide a scientifically based evaluation that will help all concerned stakeholders balance power production with water levels and flows that protect fish and wildlife habitat and provide a suitable recreational use in the GSR.

In the FERC study plan determination (SPD) dated September 24, 2021, FERC approved the Flow Routing Model requested study with staff-recommended modifications as quoted below:

> Therefore, we recommend that the *Reservoir/Flow Routing Model* be developed to be able to assess power generation and spillage at the Superior Falls Project and the Saxon Falls Project resulting from operating the project under a wide-range of reservoir levels and downstream releases, even if the reservoir levels and / or downstream releases vary hourly, daily, weekly, monthly, or seasonally. We also recommend that the reservoir / flow routing model be able to predict the effect of project operation: (1) on project reservoir levels and generation at the Superior Falls Project and Saxon Falls Project for simulated instream flows; (2) on downstream flows and generation at the Superior Falls Project and Saxon Falls Project for simulated project reservoir operations; and (3) on project reservoir levels, downstream flows, and generation at the Superior Falls Project and Saxon Falls Project both for simulated project reservoir operations and

instream flows. Power generation and spillage resulting from simulated project operation should be predicted separately for the Superior Falls Project and the Saxon Falls Project.

To meet FERC's ruling in the SPD, Mead & Hunt has developed a model within a Microsoft Excel workbook to calculate the relationship between discharge and stage in the GSR and simulate routing between the Gile, Superior Falls, and Saxon Falls projects. The model calculates results for a full calendar year and can determine power generation potential at Superior Falls and Saxon Falls powerhouses.

Three variations of the routing model have been created. Each variation requires the user to enter different information; however, they all produce results for inflows at the downstream Projects, achievable power generation, and either GSR water level or Gile reservoir discharge. The three model variations are described below:

Model 1 – The user enters a time series of discharge from the Gile reservoir spillway. Discharge values are used to determine the GSR water level.

Model 2 – The user enters a time series of GSR water levels. Desired changes in GSR water level are used to determine required discharges.

Model 3 – The user may enter either a GSR water level or a spillway discharge for each time step of the model.

This technical memorandum documents the development of the three flow routing models and includes instruction on general use of the model worksheets.

2. Reference Data and Sources

The model is dependent on data specific to the GSR, Saxon Falls, Superior Falls, and the Montreal River to produce meaningful results. The data collected as part of this modeling effort is described in this section.

Gage Inflow Time Series

Limited daily discharge data in cubic feet per second (cfs) for the Montreal River and West Fork of the Montreal River is available online for the decommissioned United States Geological Survey (USGS) stream gage 04028000[1] (in Ironwood, Michigan) and gage 04029000[2] (downstream of Gile reservoir), respectively. For the Montreal River, historical data is sparse, with the only complete years of data being 1919-1921 and 1950-1953.

For the West Fork of the Montreal River, only data collected prior to the construction of the Gile reservoir is useful for quantifying current reservoir inflow. Data from the West Fork gage following construction of the Gile Dam represents a record of discharges rather than inflows. Consequently, only data from 1919-1921 is useful for this analysis. Proxy West Fork flow data for 1950-1953 was determined by multiplying the Montreal River flows by a scaling ratio, which was calculated by dividing the summation of daily average flows for the West Fork by the summation of daily average flows for the Montreal River for the years of 1919-1921. The resulting scaling factor was 1.21 as shown in **Table 1** below.

Hourly inflow time series were developed by linearly interpolating between daily average flow values. A 12-hour moving average was used to smooth the time series and limit abrupt flow changes.

Table 1. Development of West Fork Montreal River Scaling Factor.

Year	Montreal River Summation of Daily Average Flows (cfs)	West Fork Montreal Summation of Daily Average Flows (cfs)
1919	23917	28572
1920	22728	27897
1921	19151	23460
Total:	65796	79928
	Ratio:	1.21

[1] USGS 04028000 Montreal River at Ironwood, MI.
[2] USGS 04029000 West Branch Montreal River at Gile, WI.

Derived Inflow Time Series Data

As part of Xcel's licensing application, an effort was made to derive the GSR inflow time series data from historical records of daily stage elevations and discharge through the Gile Dam for the years 1994-2021. The required inflow volume for each day was calculated as: reservoir storage change resulting from daily change in stage + daily discharge volume through dam + evaporation loss volume. Storage volumes of the GSR were determined using the stage-storage curve described in the subsection below. An average daily inflow flow rate (cfs) was determined by dividing the daily inflow volume (cubic feet per day) by 86,400 seconds per day.

The stage and discharge data provided by Xcel included some typographic errors and missing data points. The full data set was plotted to identify extreme outliers and gaps in the data series. Engineering judgement and comparison to values for adjacent days was used to correct typographic errors. Linear interpolation was used to fill data gaps.

Even after initial processing, there were indications of inaccurate data in the raw time series. Portions of the time series included illogical alignment between stage and discharge, such as a stage that fell quickly despite a small discharge value. This situation resulted in a negative inflow volume. To address this, the discharge on days resulting in a negative inflow volume was increased until the calculated inflow volume reached zero. While this modification of the provided data may not accurately represent the actual discharges that occurred, it does address the illogical relationship between stage, inflow, and discharge and maintains mathematical continuity in the mass balance equations. After modification of the discharge time series, a time series of GSR inflows was created.

Historical Records of Discharge and Reservoir Level Time Series

Discharge through the Gile Dam spillway and water surface elevation levels of the GSR have been observed and recorded by Xcel personnel since 1994. At the time of data delivery to Mead & Hunt, data through 2021 was available. This data was provided and processed for use within the model. Modifications to address errors, missing data, and illogical values were made to the provided data as discussed in the section above.

Gile Storage Reservoir Stage-Storage Curve

The GSR stage-storage curve was calculated from two data sources which were processed within ArcGIS PRO. Elevation data below the normal pool elevation of 1490 feet NGVD29 were taken from bathymetry measurements that were collected as part of the licensing process. Elevation data above the normal pool elevation was extracted from a clipped raster of the 2015 Iron County LiDAR dataset. The bathymetry and LiDAR were mosaiced into a single raster file. Reservoir area and volume values in one-foot elevation increments were extracted from the combined raster using the Storage Capacity geoprocessing tool within ArcGIS PRO. This tool also calculates cumulative volumes for each elevation increment.

Evaporation Rates

Evaporation rates for the GSR were collected from the Evaporation Climatology data (1991-2020) available from NOAA Climate Prediction Center. Monthly evaporation in inches/month were estimated from graphical charts for each month of the year.

Table 2: Monthly Evaporation Rates for the Project Region

Reservoir Evaporation Rate					
	Evaporation			Evaporation	
Month	in/month	in/day	Month	in/month	in/day
Jan	0.00	0	Jul	2.68	0.086
Feb	0.00	0	Aug	2.17	0.070
Mar	0.00	0	Sep	1.38	0.046
Apr	0.39	0.013	Oct	0.59	0.019
May	1.50	0.048	Nov	0.00	0
Jun	2.44	0.081	Dec	0.00	0

Powerhouse Capacity, Generation, and Operation

Information regarding powerhouse capacity for Saxon Falls and Superior Falls was taken from Exhibit A of the December 1988 and December 2022 Relicensing Applications as revised. Rated capacity for each generator unit, minimum and maximum turbine flows, and designed turbine head were used in the model to calculate power generation. The values taken from Exhibit A are summarized in the table below.

Table 3: Powerhouse Generation Unit Parameters

Saxon Project Powerhouse			Superior Project Powerhouse		
Net Operating Head on Turbine	130.1	ft	**Net Operating Head on Turbine**	127	ft
Single Unit Power	400	kW	**Single Unit Power**	215	kW
Single Unit Flow	48	cfs	**Single Unit Flow**	25	cfs
Calculated efficiency	0.76		**Calculated efficiency**	0.80	
Dual Unit Power	1500	kW	**Dual Unit Power**	1650	kW
Dual Unit Flow	170	cfs	**Dual Unit Flow**	220	cfs
Calculated efficiency	0.80		**Calculated efficiency**	0.70	
efficiency:	0.78		**efficiency:**	0.75	

Both Saxon Falls and Superior Falls are operated as run-of-the-river projects without peaking. Within the routing model, inflows to each Project were routed through the powerhouse up to the maximum powerhouse capacity (dual unit flow). Flows exceeding the powerhouse capacity were routed over the spillway to the downstream

reach. For power generation within the model, it was assumed that no power generation would occur for time steps with flows below the single unit flow threshold.

Reach Delineation and River Geometries

The modeling extents, from GSR to Superior Falls, were delineated into four reaches for routing calculations. Reaches were delineated based on important modeling locations including dam structures, flow convergence, and flow divergence. Reach 1 comprises the entire length of the West Fork of the Montreal River, from the Gile Dam to the confluence with the Montreal River. Reach 2 is the length of the Montreal River from the confluence with the West Fork to the Saxon Falls Project. Reach 3 is approximately 2,000-feet of the Montreal River between the Saxon Falls spillway and the downstream powerhouse discharge. The only flow in this reach is what passes the Saxon Falls spillway. Reach 4 is the length of the Montreal River from the Saxon Falls powerhouse to the Superior Falls Project.

There is no available bathymetry or cross section data for any of the modeled reaches. River cross-section geometry was approximated using a combination of aerial imagery, Light Detection and Ranging (LiDAR) data, and informed assumptions. Total reach lengths were digitized within ArcGIS Pro using available aerial imagery. Reach slopes were approximated using Iron County LiDAR data which provided water surface elevations at the start and end of the reach. It was assumed that the channel slope would equal the water surface slope over the length of each reach.

River cross-section geometries were estimated to be trapezoids. Top widths of the river under normal flow conditions were measured from aerial imagery in Google Earth. The presence of overbank floodplains was also considered when estimating river width for large flow depths. Channel side slopes were approximated based on bank characteristics. Banks with steep rock cliffs or where the river is incised were estimated to have a 1:1 side slope while banks with grassy earthen banks and floodplains were estimated to have a 4:1 slope. From this information, a table of flow area and top width was created for a range of flow depths. The Manning's Equation was used to calculate discharge capacity of the approximated channel geometry for each flow depth. It was assumed that the Manning's *n*-value for each reach was 0.04.

$$Q = \left(\frac{1.49}{n}\right) A R^{\frac{2}{3}} \sqrt{S}$$

Where: Q is the discharge capacity [ft^3/s],
n is the mannings roughness coefficient,
A is the cross-sectional flow area [ft^2],
R is the hydraulic radius of the flow [ft],
S is the channel slope [ft/ft].

3. Using the Model

The following sections discuss how to navigate the model, where to enter user information, how to run the model, and how to interpret the model results.

3.1 Sheet 1: Inflow Time Series

This sheet is where the user selects the yearlong inflow time series for the Montreal River (upstream of the confluence) and for the GSR. The table furthest to the left titled *Modeled Inflow Time Series* contains the flow data that will be utilized by the model. Data can be manually entered or populated with the other tools within the sheet. The data in this table is shown graphically in the two charts in the center of the sheet.

The table to the right of the charts stores three sets of gage data as described in Section 2 of this memo. The three sets of gage data have been selected to be representative of a dry, normal, or wet year within the context of available gage data. If a user would like to select a set of gage data, they can click the "Select Data" button which is colored blue and near the top of the table. This button will copy the associated gage data and paste it into the *Modeled Inflow Time Series* table, overwriting any existing data. The charts will update to plot the new data.

To the right of the gage data are three empty data slots titled S-1, S-2, and S-3. These are intended to allow the user to save any custom time series that may be developed. Each data slot has its own "Select Data" button which functions the same way as described above.

The tool located furthest to the right on the sheet makes use of the derived inflow time series described in Section 2 of this memo. The user may enter any year between 1994 and 2021 into the orange cell. Clicking the grey "Select Data" button will look up the data for the indicated year and paste it into the *Modeled Inflow Time Series* table, overwriting any existing data.

3.2 Sheet 2: Gile Discharge/ Gile Stage/ Gile Stage + Discharge Time Series

The data entered by the user on this sheet depends on which variation of the model is being used. It will either be a time series of the Gile Dam discharge, GSR stage elevation, or a combination of the two. The table furthest to the left titled *Modeled Time Series* contains the data that will be utilized by the model. Data can be manually entered or populated with the other tools within the sheet. The data in this table is shown graphically in the chart in the center of the sheet.

The table to the right of the charts stores three sets of gage data as described in Section 2 of this memo. The three sets of gage data have been selected to be representative of a range of possible situations. If a user would like to select a set of gage data, they can click the "Select Data" button which is colored blue and near the top of the table. This button will copy the associated gage data and paste it into the *Modeled Time Series* table, overwriting any existing data. The chart will update to plot the new data.

The Model 3 variation includes a table titled *Periods for Data Selection to Right*. When using any "Select Data" button, this table must be filled out by the user to indicate the time periods throughout the series for which you would like the program to copy either the discharge or stage data. Utilize the drop-down list to select the desired date and time. Invalid values entered by the user will result in an error message.

To the right of the gage data are three empty data slots titled S-1, S-2, and S-3. These are intended to allow the user to save any custom time series that may be developed. Each data slot has its own "Select Data" button which functions the same way as described above.

The *Time Series Generator* in the middle of the sheet is a tool for the user to create hypothetical time series. Within each row of the *Define Periods* table the user can enter a day and time using the drop-down list, and then enter a desired value. Any invalid values will result in an error message. For Model 3, the user can only enter a value for either stage or discharge for each row. If data is entered for both, an error message will appear. When the user clicks the "Generate TS" button the program will populate the *Modeled Time Series* table using the entered values. Portions of the time series between date and times entered by the user will be linearly interpolated. Any existing data in the *Modeled Time Series* table will be overwritten.

The Model 1 variation includes two tools which allow the user to modify the currently selected time series. *Apply New Minimum Flow Value* can be used to increase the minimum allowable release through the Gile Dam. Any discharge values within the time series that are less than the value entered within the orange cell will be replaced with the entered value when the user clicks "Apply". The *Apply White Water Flow Event* tool can be used to add 5-hour-long white-water release events into the time series. The user must enter what the discharge will be for each of the five hours, along with the date and time at which the white-water event will begin. There are entry fields for two events to be added. When the user clicks "Apply", the data will be placed into the time series, overwriting existing data.

The Model 2 variation includes a tool which allows the user to modify the currently selected time series. *Apply New Operational Bounds* tool is designed to quickly restrain the selected stage time series within a proposed maximum and minimum operational range. The user must enter a maximum and minimum stage elevation into the orange cells. When the user clicks "Apply" every value in the time series that exceeds the entered maximum value will be replaced with the maximum value, and every value in the time series that is below the minimum value will be replaced with the minimum value. The resulting time series will have portions of horizontal data where the original time series hits the new operational bounds.

3.3 Sheet 3: Input + Results

This sheet functions as the primary user interface for the model. The sheet is divided into sections which are discussed in detail below. No modifications to the spreadsheet should be made outside of the *Model Input Values* section.

3.3.1 Additional Model Inputs

The *Model Input Values* section contains additional user input variables that are specific to each variation of the model and that the user may choose to modify frequently. All three model variations allow the user to enter additional inflow to the model in three locations; reach 1, reach 2, and reach 4. The entered value will add a constant base flow for the entire time series prior to reach routing calculations. This additional flow is intended to be used to represent additional inflows along the reach from tributaries, springs, or the reach watershed.

Model 1 Inputs

The Model 1 variation requires the user to enter a starting elevation for the GSR. The model will use this starting stage in the first-time step. GSR stage in subsequent time steps will be calculated based on mass balance formulas.

Model 2 Inputs

The user must define the maximum allowable discharge through the Gile Dam and the minimum discharge that must be always maintained. Situations in which the stage time series drops quickly may require a large discharge that exceeds the practical spillway capacity of the Gile Dam. The defined maximum discharge value will create a limit on discharge and cause the modeled reservoir level to temporarily lag the stage time series. Conversely, if the stage time series calls for the reservoir to rise faster than the inflow time series can fill the reservoir, the model will try to minimize discharge. In this scenario, discharge through the dam will be set to the minimum discharge.

The Gile stage tolerance value is used to reduce oscillations within the model by setting a tolerance between modeled stage level and time series stage level. This tolerance is discussed further in Section 4 of this memo.

Model 3 Inputs

Model variation 3 includes all the same input variables as Model 2. In addition, there is an input variable for starting elevation of the GSR. This input is only used by the model when the first time series step contains a discharge value rather than a stage value. If stage is defined in the first time-step on Sheet 2 then this input will not be used, regardless of if the user enters a value.

3.3.2 Error and Warning Messages

The *Error/ Warning Messages* box provides an indication to the user of potential issues with the model results and assists with troubleshooting. Error messages address issues that prevent the model from calculating a full result and are shaded red. Warning messages are suggestions that the user should consider to achieve better results, and are shaded orange. If there are no errors in the model, a green “No Errors” message will appear at the top of the messages box.

Error Messages

"Gile Reservoir Exceeds Maximum Elevation/Storage" or "Gile Reservoir Reaches Zero Storage" messages indicate that the data entered by the user results in the GSR exceeding the defined stage-storage curve. The input data should be adjusted accordingly.

"Peak Discharge exceeds the defined conveyance of the XXX Reach" message means that the flow routed through the referenced reach by the model exceeds the estimated conveyance capacity calculated from reach geometry as discussed in Section 2 of this memo.

"Error in Muskingum-Cunge Coefficient Calculation" messages will appear when an error has occurred with the Muskingum-Cunge Routing Calculations. Identification of these errors is discussed in Section 4.1.1 of this Memo. If an error occurs the user should review the input data for irregularities and review the referenced material.

"The Maximum Allowable Gile Discharge is Reached" message may appear in model variation 2 and 3 and appears when the calculated discharge through the Gile Dam exceeds the maximum allowable discharge defined by the user. In this situation the model holds the discharge lower than what the user-specified elevation change called for.

Warning Messages

"Gile Reservoir Stage Deviates From Typical Range" message will appear when the calculated GSR stage strays from the typical operations as defined in the Project License. The typical range is defined as between 1475 and 1490 feet NGVD29.

"Input has Changed and Model Routing Is Not Current, Re-run Routing" message will appear when a user value or time series has been changed and the model routing calculation has not been performed. Click the "Run Muskingum-Cunge Routing" button on the *Input + Results* sheet to run the routing calculation.

"Actual Gile Stage Lags Behind Desired Stage. Gile Inflow is Insufficient" message may appear in model variation 2 and 3. If the desired reservoir level rises faster than the inflow time series can fill the reservoir, the calculated reservoir level will lag the desired reservoir level until sufficient inflow is provided.

3.3.3 Run Routing Button

The "Run Muskingum-Cunge Routing" button is located below the *Error/ Warning Messages* box. Clicking this button will run an excel macro program which performs the iterations of the Muskingum-Cunge routing method for each of the modeled reaches.

3.3.4 Model Results

The left half of the *Input + Results* sheet has a tabular section of model results. These values are automatically updated from model results. This sheet also contains 8 charts that graphically present the model results. These graphs plot the GSR elevation and discharge, energy production at the Saxon and Superior powerhouses, discharge

over the spillway at each Project, and the inflow to each Project. These graphs will update automatically as model results are updated.

4. Model Calculations

This model functions as a mass balance equation, where inflow + outflow = change in storage. This mass balance calculation is performed for the GSR, each reach, Saxon Falls, and Superior Falls. It is assumed that each of the hydroelectric projects have insignificant storage because they are operated as run-of-river, which means inflow = outflow.

Inflow arriving to the Saxon Falls Project and Superior Falls Project is first routed over the spillway to satisfy the minimum bypass requirements, which are in effect between the first Saturday after Memorial Day until October 15th. Saxon Falls must maintain a bypass of 5 cfs, which increases to 10 cfs between 8 am and 8 pm. Superior Falls must maintain a bypass of 8 cfs, which increases to 20 cfs between 8 am and 8 pm.

Inflow exceeding the bypass requirement, if in effect, is routed through the Project powerhouse. Once inflow exceeds the hydraulic capacity of the powerhouse, additional flow is immediately routed over the Project spillway. No volume attenuation occurs at either Project in this model.

Power generation at each powerhouse is calculated using the hydroelectric turbine power equation:

$$P = 0.08467HQe$$

Where: P is the generator output [kW],
H is the operating head on the turbine [ft],
Q is the flow through the turbine [ft^3/s],
e is the turbine efficiency [decimal].

The GSR mass balance calculation includes reservoir inflows, evaporation loss outflow, Gile Dam discharge outflow, and changes to reservoir storage volume. Evaporation loss volume is determined using evaporation rates obtained for the NOAA Climate Prediction Center as discussed in Section 2 of this memo. NOAA provides average inches of evaporation for each month of the year. For this model it is assumed that the monthly evaporation rate is evenly distributed across each day of the month. The inches per day evaporation rate was further converted to feet per hour of evaporation. For each time step of the model, the evaporation rate corresponding to the time steps month was multiplied by the reservoir surface area of the previous time step to obtain evaporation loss volume.

4.1 Reach Routing Calculations

Flow routing along each reach is calculated using the Muskingum-Cunge method which is based on the continuity equation or conservation of mass. Compared to mass balance in reservoir routing as discussed above, which assumes a level pool, Muskingum-Cunge routing assumes a sloping water surface. The purpose of routing the flow between the GSR and the two Projects is to account for delay in peak flows due to travel time along the reach, and to account for attenuation of flows resulting from the ability of the reach to store water.

Detailed discussion of the Muskingum-Cunge Routing method, including references and derivation of equations, can be found in *USDA National Engineering Handbook, Part 630 Hydrology, Chapter 17, Section 3*. Muskingum-Cunge is based on the Muskingum equation:

$$O_2 = C_1 I_1 + C_2 I_2 + C_3 O_1$$

Where: O_2 is discharge at the current time step [ft^3/s],
O_1 is discharge at the previous time step [ft^3/s],
I_2 is inflow at the current time step [ft^3/s],
I_1 is inflow at the previous time step [ft^3/s],
and C_1, C_2, and C_3 are dimensionless coefficients, the sum of which equals 1.0.

The equations to determine the dimensionless coefficients are as follows:

$$C_1 = \left[\frac{\Delta t}{K} + 2X\right]/C_0$$
$$C_2 = \left[\frac{\Delta t}{K} - 2X\right]/C_0$$
$$C_3 = \left[2(1-X) - \frac{\Delta t}{K}\right]/C_0$$
$$C_0 = \frac{\Delta t}{K} + 2(1-X)$$

Where: Δt is the time step between successive values [s],
K is the storage constant [s],
and X is a weighting factor [dimensionless].

Methods to estimate the values of K and X were developed by Cunge in 1969. These estimates are based on hydraulic and geometric properties of the modeled reach.

$$X = \frac{1}{2}\left(1 - \frac{Q}{(B(S_0)(c)\Delta x}\right)$$

$$K = \frac{\Delta x}{c}$$

Where: Q is the peak discharge during the time series [ft^3/s],
B is the top width of the flow area [ft],
S_0 is the average channel slope [ft/ft],
c is the wave celerity [ft/s],
and Δx is the distance step [ft].

The following equation for the distance step (Δx) is provided by Cunge. If the distance step is greater than the reach length, then the routing calculation will be performed in a single iteration. If the distance step is smaller than the reach length, then the reach will be divided into the fewest number of routing steps of equal length possible while maintaining the distance below the distance step. For example, if the distance step is between 1/3 and 1/2 the reach length, then there will be three routing steps. The Muskingum-Cunge calculations are performed for each routing step, with the outflow from the previous step serving as the inflow for the next step.

$$\Delta x = \frac{1}{2}\left(c\Delta t + \frac{Q}{B(S_0)(c)}\right)$$

The flood wave celerity is a modified velocity parameter as defined in the equation below:

$$c = mV$$

Where: V is the average velocity at peak discharge [ft/s]
m is a coefficient [dimensionless]

The value of *m* can be calculated from reach channel rating table and geometry data as developed and shown on the *Reach Geometries* sheet of the model. The calculation for *m* is performed for each row of the rating table, and intermittent values can be interpolated on a log-log basis. The calculation includes discharge and the associated cross-sectional area. The formula calculating *m* at a specific row of the rating table is shown below:

$$m(i) = \frac{(Q(3)S(2,3)) + \sum\left[\left(\left(Q(i) - Q(i-1)\right)S(i-1,i)\right) + \left(\left(Q(i-1) - Q(i-2)\right)S(i-2,i-1)\right) + ..\right]}{Q(i)}$$

Where: Q(i) is the discharge for the i^{th} row of the table [ft^3/s],
S(i-1, i) is the log-log slope of discharge-end-area curve between rows i-1 and i

4.1.1 Model Checks

As part of the routing calculations, two parameters are checked after each routing step. The first check is to see whether the dimensionless coefficients C_1, C_2, and C_3 add up to 1.0. If the sum of these coefficients differs from 1.0, there is likely an error within the model or invalid input variables.

To determine if the routing is within accuracy of the Muskingum-Cunge method, three additional variables are calculated. The Courant number, C_g, is the ratio of physical wave celerity to the grid celerity. The grid Reynold's number, D_g is the mathematical criterion which distinguishes laminar from turbulent flow.

$$C_g = \frac{\Delta t}{K}$$

$$D_g = 1 - 2X$$

$$D_g(critical) = e^{2.3(C_g)}$$

When the grid Reynold's number equals or exceeds the calculated critical value, then the results of the Muskingum-Cunge routing are invalid for the flow conditions.

5. Minimum Flow Study

The model 1 variation was used to quantify how varying the minimum required discharge from the GSR affects the GSR stage elevation and the power generation potential at the Saxon and Superior Projects. The minimum discharges evaluated were 12, 24, and 36 cfs. The derived inflow time series, as discussed in Section 2, was evaluated to identify full years which were dry, normal, and wet relative to the historical data set. The study years were identified by evaluating the data based on total annual inflow volume to the GSR, total annual discharge volume from the Gile Dam, and the total number of days in which discharge exceeded 50 cfs. The data years were sorted based on these metrics to assist with study year selection. The selected years for the minimum flow study are shown in the table below. Xcel records of Gile Dam discharge were matched to the identified study years.

Table 4. Selected Model Years

Description	Year	Inflow Volume Percentile	Discharge Volume Percentile	# Days >50 cfs Percentile
Dry	2012	0th	0th	0th
Normal	2003	56th	59th	33rd
Wet	2016	93rd	96th	100th

The inflow time series derived from historical data were modified to include two simulated white water flow events. Each simulated event lasted 5 hours, with the first and last hours at 600 cfs and the remaining hours at 1200 cfs. The events occurred at noon on the last Saturday of June and September for the given data year.

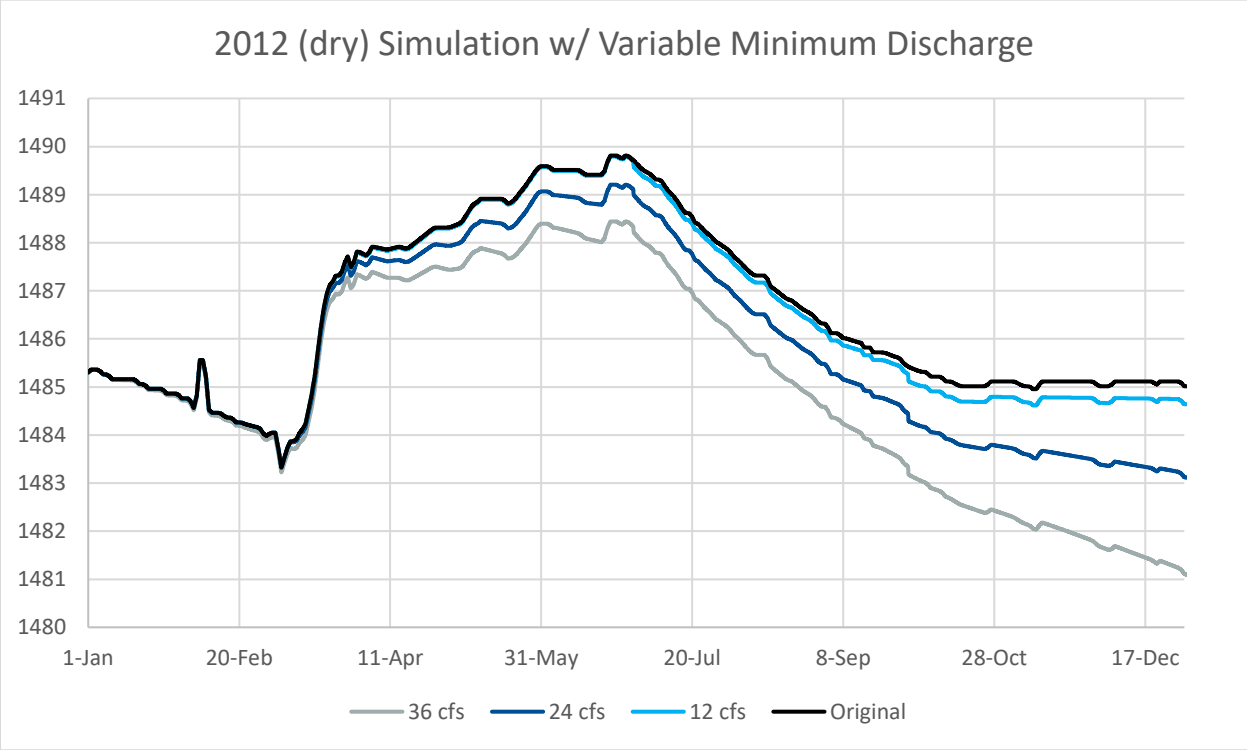
The model was run with a minimum of 12 cfs, 24 cfs, and 36 cfs. Stage hydrographs of the GSR and summary results are presented below. Increasing the minimum allowable discharge results in a decrease of the GSR throughout the model year. More notably, increasing the minimum allowable discharge results in an increased annual generation capacity, likely due to the additional flow allowing each turbine to be more fully utilized. The original unaltered derived inflow time series, which operated under a 10 cfs minimum discharge and includes no white-water events, is included in the results for reference.

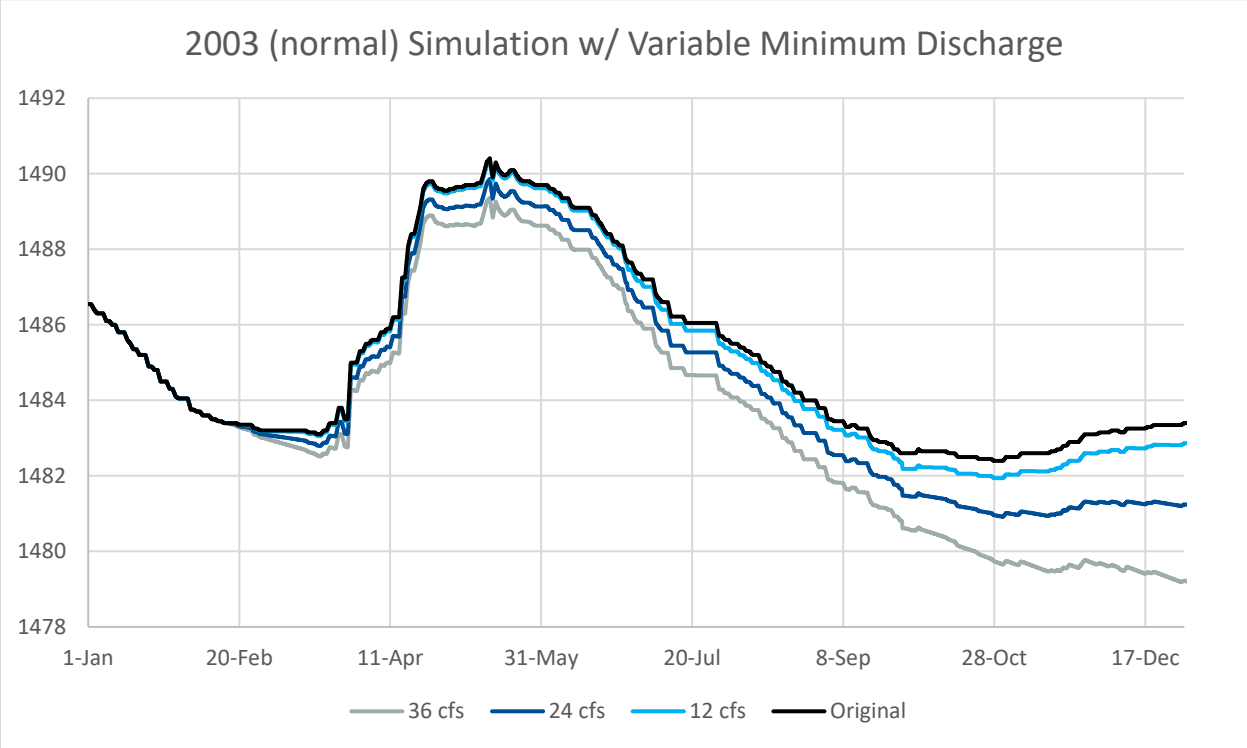
Table 5. Minimum Flow Study Stage Results

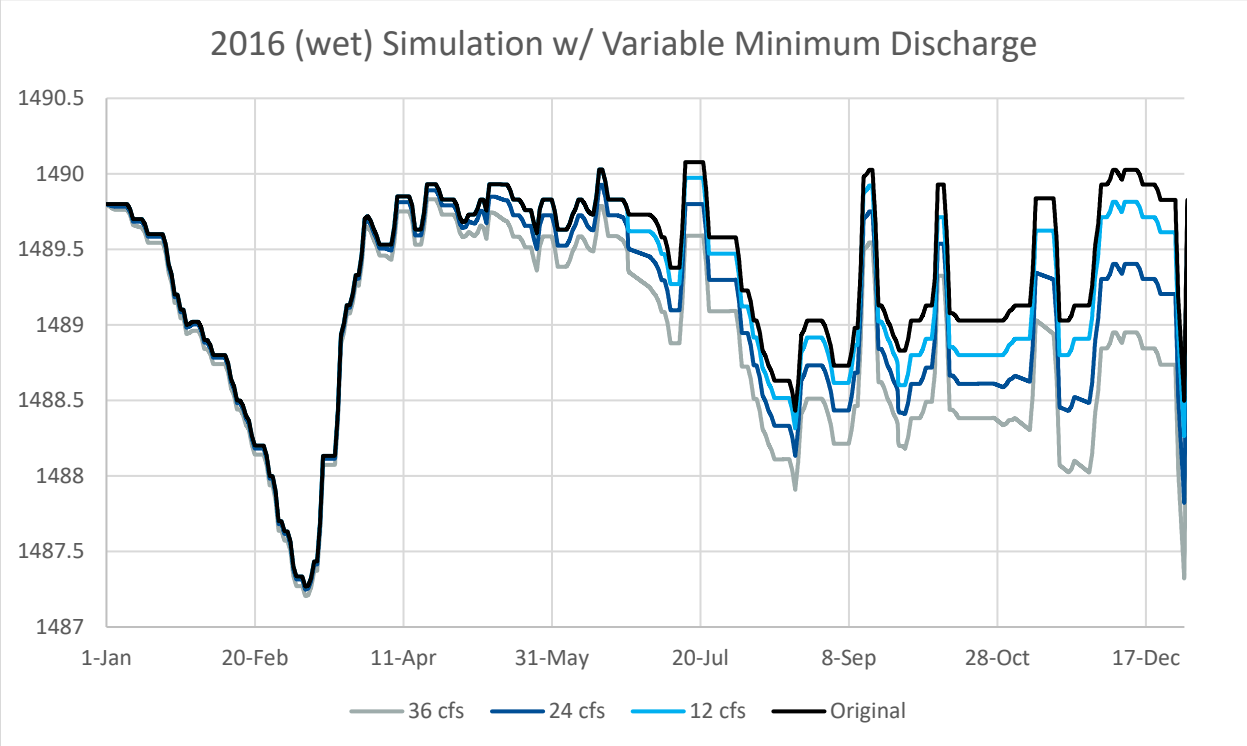
	Start of Year GSR Stage, FEET NGVD			End of Year GSR Stage, FEET NGVD			Minimum GSR Stage, FEET NGVD		
Scenario	2012	2003	2016	2012	2003	2016	2012	2003	2016
Original	1485.30	1486.55	1489.80	1485.02	1483.45	1489.83	1483.32	1482.40	1487.27
12 cfs	1485.30	1486.55	1489.80	1484.64	1482.91	1489.61	1483.32	1481.94	1487.27
24 cfs	1485.30	1486.55	1489.80	1483.10	1481.28	1489.20	1483.10	1480.92	1487.25
36 cfs	1485.30	1486.55	1489.80	1481.06	1479.24	1488.74	1481.06	1479.19	1487.20

Table 6. Minimum Flow Study Generation Results

	Saxon Falls Total Generation, MWh			Superior Falls Total Generation, MWh		
Scenario	**2012**	**2003**	**2016**	**2012**	**2003**	**2016**
Original	4120	6307	9389	4444	6793	10368
12 cfs	4144	6323	9395	4468	6842	10381
24 cfs	4304	6396	6437	5081	7522	10612
36 cfs	4636	6622	9635	5595	7900	10763

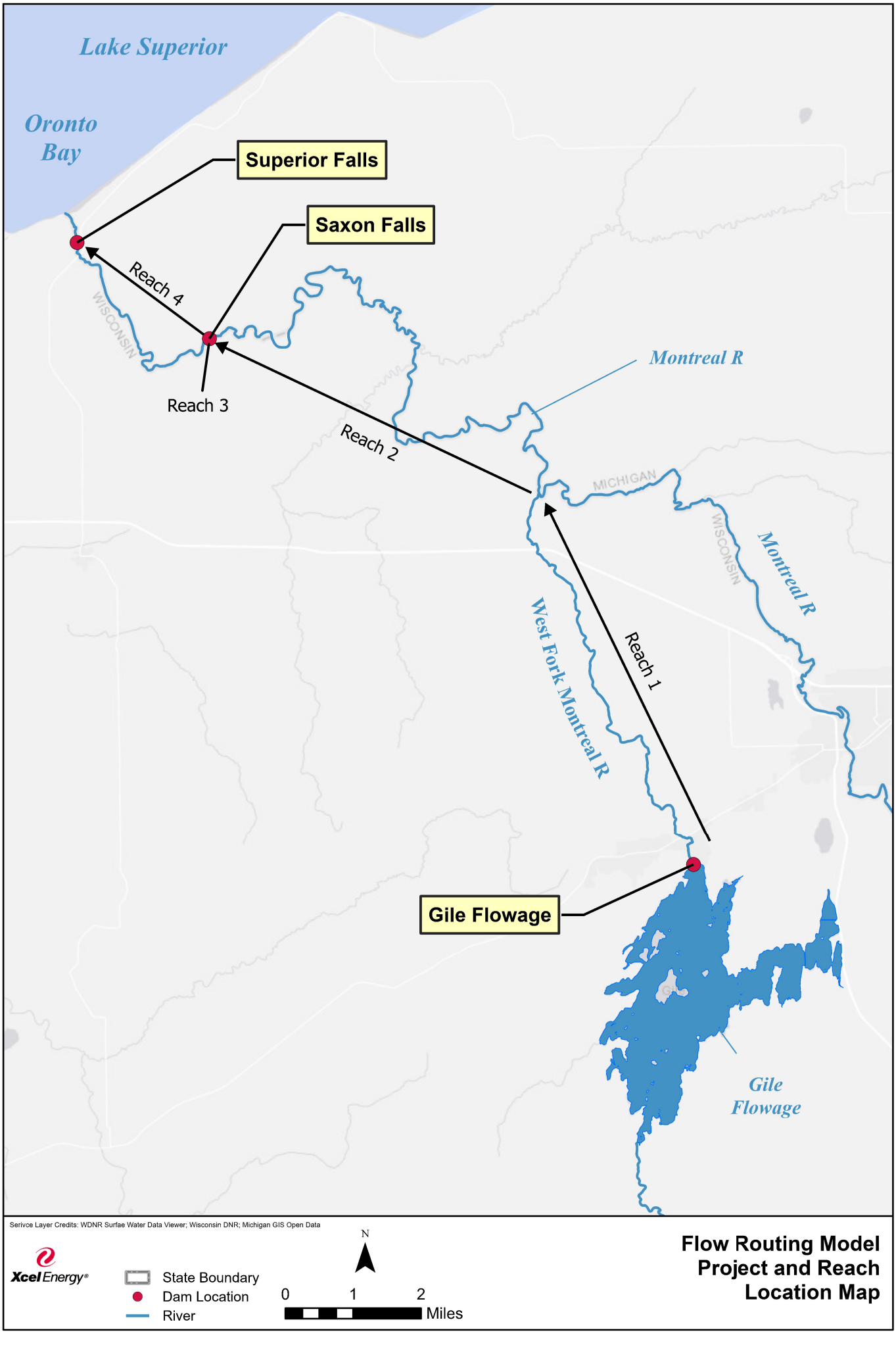



2003 (normal) Simulation w/ Variable Minimum Discharge
1492
1490
1488
1486
1484
1482
1480
1478
1-Jan
20-Feb
11-Apr
31-May
20-Jul
8-Sep
28-Oct
17-Dec
36 cfs
24 cfs
12 cfs
Original


2016 (wet) Simulation w/ Variable Minimum Discharge
1490.5
1490
1489.5
1489
1488.5
1488
1487.5
1487
1-Jan
20-Feb
11-Apr
31-May
20-Jul
8-Sep
28-Oct
17-Dec
36 cfs
24 cfs
12 cfs
Original

6. Disclaimers

The developed routing model implements simple formulas and logic to predict the behavior of a complex system. The model is entirely dependent on the quality and realism of the input data provided by the user. The calculation of results is solely predicated on a complete data set that does not violate the limits of the model. The user should remain cognizant and mindful that the quality of results is dependent on the quality of the input data.


Lake Superior
Oronto Bay
Superior Falls
Saxon Falls
Reach 4
Reach 3
Reach 2
Reach 1
WISCONSIN
MICHIGAN
Montreal R
West Fork Montreal R
Gile Flowage
Gile Flowage
Serivce Layer Credits: WDNR Surfae Water Data Viewer; Wisconsin DNR; Michigan GIS Open Data
Xcel Energy®
State Boundary
Dam Location
River
N
0
1
2
Miles
Flow Routing Model Project and Reach Location Map

APPENDIX E-29 Comments on DLA and NSPW's Responses

RAW Comments on DLA

May 31, 2023

Ms. Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, D.C. 20226

Electronic Filing

Re: Review of draft *Application for Original License,* Gile Flowage Reservoir Storage Project, FERC Project No. 15055-000, West Fork of the Montreal River, Iron, County, Wisconsin, Northern States Power Company -Wisconsin (NSPW)

Dear Secretary Bose:

Background

To satisfy obligations under sections 4(e) and 10(a) of the *Federal Power Act*, as amended, and the *Electric Consumers Protection Act*, among other legislation, the FERC must give equal consideration to developmental and environmental interests when issuing a new license. Further, when making licensing decisions, the FERC is required to develop measures for the protection of environmental resources and enhancement of recreational facilities to ensure that relicensing is accomplished in the best interest of the public as well as the Applicant. The FERC licensing process for hydro projects is a public process. The River Alliance of Wisconsin (RAW) participates in hydro relicensing proceedings as a Non-Governmental Organization. The RAW is a nonprofit organization consisting of many stakeholder groups and concerned citizens statewide. Further, through the relicensing process, the RAW advocates for river restoration and protection; enhancement of fish and wildlife species and the habitats upon which they depend; and enhancement of recreational resources at the project within and contiguous to the project boundary. The RAW has a long history of participating in relicensing projects in Wisconsin and the Upper Peninsula of Michigan.

Comments on draft Application for License

The RAW has reviewed the referenced draft *Application for License* (AL) for the referenced Gile Storage Reservoir (GSR) and herewith provides comments on it. It is very beneficial that the abundant environmental information collected during the study phase of licensing will serve to update the condition of environmental resources present in the project area of the West Fork of the Montreal River and will help the Wisconsin DNR and Michigan DNR, as well as NSPW, manage aquatic and terrestrial resources in the project area. When the final AL is completed and the FERC notices it READY FOR ENVIRONMENTAL ANALYSIS, the RAW will submit to the Commission recommended terms and conditions (T&C) for inclusion in the license along with rationale to support them. Proposed protection, mitigation, and enhancement measures are discussed below for your consideration when preparing the final AL. However, they are not necessarily all-inclusive.

The RAW concurs with NSPW's proposed environmental mitigation and enhancement measures stated in Exbibit E, although we expect that they will be refined as they are evaluated by Wisconsin DNR, Michigan DNR, and other stakeholders. We believe it is worthy to list here NSPW's proposed environmental commitments developed thus far in licensing:

-develop an *aquatic and terrestrial invasive species monitoring plan*, and conduct biannual invasive surveys

RIVER ALLIANCE of WISCONSIN
345 W Washington Ave, Suite 304
Madison, WI 53703
info@wisconsinrivers.org
608.257.2424
wisconsinrivers.org

-develop a *rapid response invasive species monitoring plan* to monitor for the introduction of new aquatic and terrestrial invasive species, and limit their dispersal
-conduct *shoreline erosion surveys* every 5 years, and take remedial action if necessary
-implement the *Cave Bat BITP/A* and *Wood Turtle BITP/A*

Recreational measures
-provide flow release and storage reservoir elevation information via the internet
-maintain and improve signage at the canoe portage
-develop a *whitewater recreation plan* for the GSR and for the Saxon Falls (SAF) hydro project that details the flow discharge regime for white water boating
-provide two water releases downstream annually for whitewater boating: one in June, and one in September
-provide additional water downstream from the GSR for an increased aesthetic flow in the SAF Project bypass reach
-continue aesthetic flow releases in the Superior Falls (SUF) Project bypass reach

Project Operations
-continue to provide discharge from the GSR such that the SAF and SUF projects are operated in a run-of -river mode
-for daily reservoir operation, implement a gradual (ramping) rate for changing water levels to balance the needs of downstream generation with the needs of recreation and protection of the aquatic community in the GSR
-develop an operations compliance plan for the GSR

We recommend that all plans prepared by NSPW be developed in consultation with the Wisconsin DNR, Michigan DNR, Michigan Department of Environment, Great Lakes and Energy (EGLE) and other concerned stakeholders.

Reservoir/flow routing (RFR) model. The RAW supports XE's efforts to finish an RFR model in 2023 for the GSR. The operation of the GSR is of course an integral part of the operation of the SAF and SUF hydro projects. We recommend that the water budget modeled for the GSR incorporate a base flow of at least a two CFS release in the bypass channels of SAF and SUF hydro projects at all times and year-round. Two CFS seems reasonable to the RAW based on our experience setting base flows in bypass channels at other hydro projects. Recognize that this is not a recommendation for a study; rather, it is a stated resource need to provide year-round watering in the side channels to sustain any aquatic community that develops there.

The RAW recommends that NSPW implement other measures for protection, mitigation, and enhancement at the GSR as requirements in the license.

1. Maintenance drawdowns. To protect small fish, mussels, and other aquatic life from becoming stranded in the riverbed and exposed on flowage-dewatered shoreline, NSPW should prepare, in consultation with the Wisconsin DNR, Michigan DNR, and FWS, a drawdown management plan to be implemented for GSR when there is a need for routine dam maintenance or if there is a need for an emergency drawdown.

2. Operational compliance. Among other elements of an operational compliance plan, NSPW should install a new staff gauge at the dam to clearly show the maximum and minimum water levels of the GSR allowed in the license. NSPW should keep the gauge clean at all times, as the numbers get obscured easily by algae and other debris.

3. Water quality standards. To protect fish and other aquatic life from low dissolved oxygen levels and high water temperatures, NSPW should develop a plan, in consultation with the Wisconsin DNR and Michigan EGLE, to monitor dissolved oxygen, temperature, and other parameters as deemed appropriate by the resource agencies to ensure that the project is operated within each state's water quality standards.

4. Bald eagle protection. Determine annually if any bald eagle nests occur on project land, and if so, implement the *USFWS bald eagle management guidelines* to protect nests and bald eagles from any land-disturbing activity.

Further, implement a listed species protection plan if, over the period of the license, any federal and state listed species inhabit the land and water within the project boundary.

5. Recreation. NSPW should prepare a *Recreation Plan* for the project and address the recommendations submitted by the resources agencies and concerned stakeholders as input to the plan. The plan should be implemented over the period of the new license and include these general conditions:

-implement the recreational improvement measures proposed by NSPW in Exhibit E, and make the commitment to implement those provided thus far in relicensing to NSPW by the resource agencies and concerned stakeholders (i.e., Friends of the Gile Flowage, Michigan Hydro Relicensing Coalition, and American Whitewater)
-commit to maintain all recreational sites (i.e., boat launches, fishing piers, trails, and canoe portage) in good condition
-prepare a brochure or update the existing one showing a map of the project and the location of all recreational facilities
-install new recreational facilities over the period of the license on an as-needed basis

The RAW will likely develop additional recommendations during the remainder of the licensing process.

If you have any questions, please contact me at awerner@wisconsinrivers.org or our Hydro Consultant, Jim Fossum at jfbio@yahoo.com.

Sincerely,

Allison Werner
Executive Director
River Alliance of Wisconsin

Cc: Matt Miller, NSPW, Eau Claire, WI
Shawn Puzen, Mead & Hunt, Middleton, WI
Darin Simpkins, U.S. Fish and Wildlife Service, New Franken, WI
Cathy Techtmann, Friends of the Gile Flowage, Montreal, MI
Robert Stuber, Michigan Hydro Relicensing Coalition. Traverse City, MI
Chery Laatsch, Wisconsin DNR, Horicon, WI
Elle Gulotty, Michigan DNR, Norway, MI
Gary Kohlhepp. Michigan Department of Environment, Great Lakes and Energy, Lansing, MI
David Thomson, National Park Service, Omaha, NE
Thomas O'keefe, PhD, American Whitewater, Seattle, WA
Angela Tornes, Consultant for the NPS, Milwaukee, WI
James Fossum, *JDFossum Environmental Consulting*, Winona, MN

MHRC Comments on DLA

Michigan Hydro Relicensing Coalition
1620 High Street
Traverse City, MI 49684
Telephone (231) 775-4321

June 13, 2023

Ms. Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington DC. 20426
(via e-filing)

Re: Input on Draft License Application for the Gile Flowage Storage Reservoir Project (Xcel Energy Northern States Power Wisconsin Project P-15055).

Dear Secretary Bose:

The Michigan Hydro Relicensing Coalition (Coalition) is a coalition of five statewide, nonprofit conservation groups with an interest in the protection and enhancement of aquatic resources: Michigan United Conservation Clubs, Michigan Council of Trout Unlimited, Great Lakes Council of Fly Fishers International, Anglers of the Au Sable, and the Michigan Steelhead and Salmon Fishermen's Association. The Coalition is an Intervenor in the licensing proceedings for the Gile Flowage Project (P-15055) given the nexus between it and the downstream Saxon Falls - Superior Falls Hydropower Projects (P-2610-011; P-2587-065, respectively) on the Montreal River, a Michigan interstate river.

The Coalition concurs with the River Alliance of Wisconsin's (RAW) assessment of Northern States Power Wisconsin's (NSPW) proposed environmental mitigation and enhancement measures stated in Draft License Application (DLA) Exhibit E. The Coalition anticipates that these measures may be refined as they are evaluated by the resource agencies and other stakeholders. The Coalition also concurs with the RAW recommendation that the Commission incorporate the other specific measures for protection, mitigation, and enhancement at the Gile Flowage Project as requirements in the final license issued to NSPW: maintenance drawdowns, operational compliance, water quality standards, and bald eagle protection. The Coalition also supports the RAW and American Whitewater (AWW) recommendations for the DLA recreation measures.

The Coalition recommends that NSPW complete the minimum flow habitat evaluation study and the reservoir/flow routing (RFR) model, and incorporate the results in its final license application.

The Coalition also recommends that all plans prepared by NSPW should be developed in consultation with the Wisconsin Department of Natural Resources, Michigan Department of Natural Resources, Michigan Department of Environment, Great Lakes

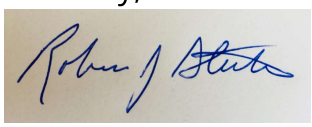
Michigan Hydro Relicensing Coalition
1620 High Street
Traverse City, MI 49684
Telephone (231) 775-4321

and Energy (EGLE), and other concerned stakeholders (e.g., RAW, Friends of the Gile, AWW).

The Coalition has previously raised the issue of analyzing the effects of operation of the Gile Flowage - Saxon Falls and Superior Falls hydropower system as interrelated during the forthcoming environmental (NEPA) analysis by the Commission. Given the operational connection that during times of low flow water is released from the Gile Flowage to supplement natural river flows for power generation at the NSPW downstream hydroelectric projects, all three of these projects need to be viewed as a whole in terms of the environmental analysis of proposed future operations (including the cumulative effects analysis). The Coalition again urges the Commission to do a joint NEPA analysis as also recommended by AWW.

Thank you very much for your consideration of our input. Please contact me if you have any questions.

Sincerely,



Robert J. Stuber, Executive Director
Michigan Hydro Relicensing Coalition

cc: Matthew J. Miller (NSPW)
Darin Simpkins (U.S. Fish and Wildlife Service)
Dave Thompson (National Park Service)
Cheryl Laatch (WDNR)
Elle Gulotty (MDNR)
Gary Kohlhepp (MEGLE)
Thomas O'Keefe (American Whitewater)
Cathy Techtmann (Friends of the Gile Flowage)
Allison Werner (RAW)
James Fossum (RAW-JDFossum Environmental Consulting)

Document Content(s)

FOG Comments on DLA

Federal Energy Regulatory Commission
888 First St. NE
Washington, D.C. 20226

Friends of the Gile Flowage, Inc.
Box 227, Montreal, WI 54550
friendsofthegile.org

Electronic Filing

Re: Review Comments on Draft Application for Original License, Gile Flowage Reservoir Storage Project, FERC No. 15055-000, West Fork of the Montreal River, Iron County, Wisconsin, Northern States Power Company-Wisconsin (NSPW)

Dear Secretary Bose:

The Friends of the Gile Flowage (FOG) appreciates the opportunity to offer comments on the draft Application for Original License, Gile Flowage Reservoir Storage Project, FERC No. 15055-000, that Northern States Power Company - Wisconsin (NSPW).

FOG is a 501c3 qualified Wisconsin lake association and the only citizen-led organization representing the Gile Flowage. Our membership includes property owners and non-owners, and a wide variety of local and non-local Reservoir users. We have 20 years of place-based local knowledge of the Gile Flowage. FOG members actively participate in Gile Flowage habitat restoration and stewardship projects, citizen water quality sampling, invasive species monitoring and mitigation education, and clean-ups of Flowage island and mainland campsites and boat landings as documented on our website www.friendsofthegile.org. Because of the interconnectedness of the Gile Flowage and downstream hydro facilities, FOG has participated as a stakeholder in the Saxon-Superior Falls hydroelectric relicensing, as well as this original license application project for the Gile Flowage Reservoir Storage Project.

FOG has reviewed the draft application for License (AL) for the Gile Flowage Reservoir Project and supports consideration of the following environmental, mitigation, and enhancement measures in the preparation of the final Application License:

Need for an Integrated Gile Flowage Reservoir-Saxon/Superior Falls Comprehensive Plan

FOG stresses that the Gile Flowage Reservoir is an integral part of the Licensee's hydro system that includes the Saxon and Superior Falls projects. FOG has maintained the position that three projects are interconnected and need to be viewed as a whole when analyzing project-effects on the Gile Flowage Reservoir. The Reservoir is only one element of an integrated watershed system that requires balancing Reservoir needs with those downstream on West Branch of the Montreal River.

FOG recommends that NSPW develop an Integrated Gile Flowage Reservoir-Saxon/Superior Falls Comprehensive Plan, using a watershed resource-based approach, to manage shorelines and the multiple resources and uses of the project in a manner that is consistent with license requirements and project purposes, and addresses the needs of the public. This plan would address many of the issues FOG raises in this letter. Goals for this plan should include:

- implementing management practices that will perpetuate the natural character of the Flowage's shoreline
- preserving its aesthetic qualities
- protecting plant and animal communities

- preserving quality outdoor recreational opportunities including fishing, hunting, camping, nature observation, trapping, boating and canoeing
- managing the Reservoir through a watershed management approach
- engaging local and non-local stakeholders and tribes

Project Boundary

The AL section 2.2.2.1 offers Reservoir operating parameters with water level fluctuations continuing between the proposed project boundary at the 1490' NGVD elevation, called "full pond", to an allowable drawdown to the 1475' NGVD elevation. This is a 15-foot variation. Drawdowns increase impacts on shoreland habitat and aquatic species by exposing the littoral area to dewatering. Drawdowns can impede boater access at each of the Reservoir's boat landings as evidenced in the Recreation Study boater interviews.

On the other hand, NSPW is selling its Reservoir riparian properties to adjacent private landowners that includes a permanent easement allowing NSPW to flood these properties to the 1500' NGVD elevation. Such flooding would be 10 feet above the proposed 1490' NGVD project boundary elevation. At this elevation, Reservoir water would overtop the Gile Dam, and flood US Hwy. 51 at the Reservoir's eastern edge as well as private and public property around the Reservoir. Combining the allowable drawdown to 1475' NGVD to the 1500' NGVD flooding easement elevation means there is the potential for a 25-foot Reservoir water level variation. We are concerned that none of the AL's environmental studies have factored impacts of this degree of water level fluctuation.

FOG recommends that the Reservoir project boundary be established at the 1500' NGVD elevation which would be consistent with NSPW flooding easement and NSPW project-related management. The permanent 1500' NGVD flooding easement is a project-operation effect that impacts the entire Reservoir, and the protection of the riparian area. Therefore, we feel that the Project Boundary should be the same as the Area of Potential Effect that will be impacted by this flooding easement.

FOG also recommends that NSPW develop a Drawdown-Flooding Management Plan for project-related drawdowns are needed for routine dam maintenance or an emergency drawdown, and in cases when flooding above the project boundary becomes necessary to:

- notify the public in a timely and effective manner
- mitigate impacts on aquatic habitats
- mitigate impacts on public use and safety

NSPW Owned Reservoir Uplands Connected to Riparian Lands

The AL states, *"The reservoir features a primarily undeveloped wooded shoreline with numerous rock outcrops and bedrock islands that greatly enhances the aesthetics."*

There are approximately 900 acres of land around the Reservoir where NSPW owns large tracts of both the riparian and adjacent uplands. These lands are currently outside the proposed project boundary, but are integral to maintaining water quality, habitat, public access, and the unique Reservoir aesthetics as cited in the AL. Sales of NSPW non-project lands, adjacent to the Reservoir, will lead to greater development pressure and decrease of public access. *Disposal of these large land tracts and riparian properties by NSPW could jeopardize the current conditions on which the License Application is based.*

FOG recommends that NSPW either extend the Reservoir project boundary to retain ownership of all riparian and adjacent uplands NSPW lands adjacent to the Reservoir; or donate these properties to a land trust, or other public entity, to retain their environmental qualities and keep them publicly accessible.

Water Release Plan

FOG recognizes the need for project-related water releases from the Gile Flowage to support opportunities for white water kayak recreation on the West Branch of the Montreal River. We support the two planned water releases from the Gile Flowage proposed in the AL.

FOG recommends that NSPW develop a Water Release Plan in consultation with stakeholders including FOG that:

- balances the opportunities for whitewater flows with recreation opportunities and impacts to the Reservoir
- provides a minimum of a 72-hour notice of any planned Reservoir water releases to allow notification of Reservoir property owners and users
- provides public information on water releases via Xcel's Gile Flowage Hydro website and through local media
- consults annually with the National Park Service, American Whitewater, FOG, and other stakeholders

Reservoir Recreation Plan

Since it was established in the late 1940's the Reservoir has operated under a "gentleman's agreement" with relatively "lassie-faire" management with NSPW providing maintenance of boat landings and assistance with stewardship projects, as requested. At 3,454 acres, the Gile Flowage Reservoir remains the last largely undeveloped large waterbody in northern Wisconsin with relatively unlimited public access via NSPW riparian and upland properties. It is a major recreational attraction that until now has been largely undiscovered, except by local residents. This is rapidly changing as demand for publicly accessible water-based recreation grows.

The AL states that the Licensee will continue to manage the Reservoir as it has done since it was created in the 1940's. Many things have changed since then, including the amount and types of recreation pressure on the Reservoir.

We disagree with the NSPW assumption in section 3.8.1.3.5 that the states the number of Reservoir recreational days is not expected to increase by 2040 based on "*no projected of population change in Iron County, WI and Gogebic County, MI.*" This assumption fails to recognize the significant increase in the number of non-local residents/tourist visitors coming to Iron County WI and neighboring areas.

According to the WI Department of Tourism (Travel Wisconsin, 2022), ***Iron County experienced a 118% increase in tourism expenditures from 2019 to 2022***. This is evidence that more visitors are discovering this area and using the Reservoir which is a primary northern Iron County attraction. This usage will only increase once the Reservoir is federally licensed, and its notoriety increases from this designation.

Support for Reservoir recreation planning or enhancement is lacking in the AL. "Estimated Cost for Proposed Environmental Measures" (Table A-1), includes a $15,000 budget for a Whitewater Recreation Plan which will affect recreation downstream from the project boundary, ***but there is no plan listed or budgeted for recreation planning or enhancement within the Reservoir's project boundary.***

FOG strongly supports NSPW develop a Reservoir Recreation Plan, in partnership with stakeholders, that addresses:

- recreational use of Reservoir islands and shorelands within the project boundary
- need for accessible public fishing opportunities including handicap accessible fishing
- developing a schedule for monitoring and maintaining project recreational facilities, including island maintenance
- implementing stewardship projects and partnerships that support Reservoir Recreation Plan goals.

Island Recreation Plan and Enhancement Measures

Exhibit G Project Boundary Map identifies many of the islands within the Reservoir as Fee Simple and included in the project boundary. These islands are a result of the Reservoir being created. They represent a project effort and measures must be implemented for their management.

FOG supports inclusion of these NSPW owned islands within the project boundary, however we feel that recreational use of the 20+ NSPW islands is not adequately addressed in the AL.

In the AL, the Licensee indicates that they will manage the Project in the same manner as when the dam was created in the late 1940's. NSPW's stated position has remained that camping is not permitted on NSPW islands or its riparian lands. However, this policy has never been enforced. Island camping and day use is increasing, bringing more trash and sanitary issues. Active management of the Gile Flowage islands is necessary to maintain a safe, sanitary experience for Flowage users as well as maintain island habitats.

The Recreation Study's "Evaluation of Existing Recreation on Undeveloped Islands" section 3.8.1.3.4 acknowledges that trash was found on several islands (no number given). Although the study did not specify the amount or type of trash, a low level of garbage may be due to the annual FOG clean ups as well as on-going boat landing and island cleaning done by FOG volunteers throughout the year. The amount and type of garbage collected by FOG volunteers in annual island clean ups has been well documented in prior project correspondence to FERC. The AL also fails to discuss the problem of human sewage NSPW islands being used for camping. Measures need to be taken to mitigate this issue.

FOG recommends that NSPW develop an Island Recreation Plan and Enhancement Measures to:

- establish policies and procedures for public-use camping on NSPW islands and shorelands
- implement management strategies for maintaining sanitary and safe camping and recreational use of NSPW's islands and shorelands
- conduct regularly scheduled island clean-ups to remove garbage from these islands as well as monitor and mitigate environmental damage caused by recreational use
- conduct public education on the need for "back country" recreational use practices on NSPW islands and shorelines through signage at each boat landing and public information outreach about recreational use of the Reservoir

FOG volunteers routinely clean up trash from boat landings and islands, including collecting and properly disposing of used fishing line. FOG's annual Fall Island Clean-Up generates approximately 400 pounds of trash and waste annually. Increasing use of the Reservoir's islands for camping and recreation is stretching the ability of our non-profit lake association to maintain healthy and safe conditions.

Enhance Tailwater Recreation: Kayaking/Canoeing and Fishing

The tailwater area is included in the current proposed project boundary. The tailwaters area is accessed via a path across and down the steep grassy north slope of the Gile Dam berm to the river's east side. The area is currently undeveloped and unsigned. There is no designated or ADA accessible parking to access the tailwaters areas. Users park either on city streets or the eastern edge of the Gile Dam berm.

Fishers interviewed in the Recreation Study supported public access to the tailwaters area immediately below the Gile Dam. The tailwaters area also served as a put-in point for the project's Whitewater Study, although kayakers accessing the West Branch of the Montreal River typically put in further downstream below Hwy. 77 to avoid Gile Falls.

Tailwaters Kayak/Canoe Recreation: Currently there is a "Take Out" sign on the Gile Dam. The AL calls for signage of a "Canoe Portage" directing boaters over the south side of the Gile Dam berm to the West Branch of the Montreal River on the north side. We do not know of any boaters who have ever portaged from the Reservoir to access the West Branch. This side of the Gile Dam berm is reinforced with large boulders, making portaging over them impossible unless improvements are made. We propose that a "Canoe Portage" sign is unnecessary unless required due to the presence of the Gile Dam in which case improvements are needed to create a portage access.

However, we disagree with NSPW and feel that a Put In" sign is necessary should any kayakers/canoers wish to access the river. Local knowledge is that recreationalists accessing the tailwaters park their vehicles at the edge of a city street located at the east end of the Gile Dam berm. As noted in the Recreation Study Table 5-15, there are no parking places at the Gile Dam. We propose that a Put-In sign directing kayaker/canoers from this "parking area" across the Gile Dam berm to the trail access down to the river makes more sense than a Canoe Portage sign which will not be seen from this access trail. However, as noted by participants in the Whitewater Study, the tailwaters area is not adequate for whitewater boaters to use as a put-in site in its present state. It is also important that kayakers/canoers accessing the river from here should be made aware of the proximity of navigational hazards, such as Gile Falls, located a short distance downstream from the tailwaters.

Tailwaters Fishing Recreation: The east side of the tailwaters area is also accessed by fishers from the informal "parking area" to a path across the Gile Dam berm, then down the berm's steep northern slope to the river's edge. The area is undeveloped and not ADA accessible. It could be prone to erosion with greater use. FOG recommends NSPW include Tailwaters Enhancements in a Reservoir Recreation Plan to consider options for enhancing public recreational access which mitigating environmental impacts.

FOG supports the following Tailwater Recreation Enhancements:

- develop an ADA accessible off-street parking area for fishers and kayaker/canoers using the tailwaters area
- develop a tailwaters pathway and access to insure safe public use for both fishers and kayakers while protecting the integrity of the Gile Dam berm and mitigating environmental impacts
- erect signage indicating a kayak "Put In" directionally located to direct kayakers/canoers from the parking area to the tailwaters put-in location
- erect signage at the tailwaters put-in including a map of the river indicating navigational hazards, such as Gile Falls, and downstream take-out locations and distances
- develop a ADA compliant access, fishing platform, and shoreline pathway to ensure recreational opportunities for people with handicaps or disabilities

Boat Landings: Maintenance and Mitigation

Public use and enjoyment of the Gile Flowage Reservoir depends on access via one of four public boat landings. The two major, developed landings have docks and are accessible by paved roads. These are Gile Park Landing (City of Montreal), and the County C Landing (WDNR). The two smaller landings with no docks are Town of Pence Landing (Town of Pence) and Sucker Hole Landing (Iron County) Both of these landings are accessed by Spring Camp Road.

Reservoir water levels directly relate to project operation and the ability of the public use of these landings to access the Reservoir. Different opinions from respondents on boat launch accessibility are presented in the Recreation Study and the AL. Some respondents indicated significant difficulty using the County C Landing and docks, especially under low water conditions, and said that ramp and dock conditions were unsafe. One respondent offered that "*the Town of Pence and Sucker Hole Landings are substitutes because the County C Landing is not useable at low water levels*." Others countered that it was difficult to launch "*at both the Gile Park and Town of Pence Landings under low water conditions*." AL section 3.8.2.3 states *"there are alternatives for launching a boat during the summer drawdown such as Gile Park and Town of Pence Landing, which remain accessible during low water conditions."* FOG maintains that Sucker Hole Boat Landing is a low water boat launch site based on local experience.

Despite the range of opinions on low water boat launching, the Recreation Study Table 5-13. "Summary of comments received from interviews, Gile Flowage (January, May-October 2022)", cites respondent comments about **the impacts to boat launching under low water conditions at <u>each of the Reservoir's landings.</u>**

Because the Town of Pence and Sucker Hole Boat Landings allow Reservoir boating access under low water conditions due to project operations, FOG recommends that the Town of Pence and Sucker Hole Boat Landings be included within the project boundary as a project facilities due to their importance in insuring public access.

FOG also recommends that NSWP develop a Boat Landing Enhancement Plan to provide annual maintenance and mitigation measures at each of the Reservoir's four boat landings to ensure boater access to mitigate the impacts of project-operation water levels fluctuations .

Need for Mitigation in the Invasive Species Monitoring Plan

As stated in section 3.6.2.1.2 the licensee acknowledges the project-related effect of the spread of aquatic and invasive species: *"Maintenance of Project facilities and Project works have the potential <u>to increase the risk of spread or transfer of aquatic invasive species.</u>*" We disagree mitigation the Licensee proposes to respond to this increased risk, cited in section 3.6.3-Proposed Measures, that is to conduct more monitoring: *"… the Applicant will develop a rapid response invasive species monitoring plan to monitor for the introduction of new invasive species and limit the dispersal of established species… and include a proposal for biennial surveys."*

We contend that monitoring for invasive species caused by project operations, however rapid, is not a mitigation strategy to limit their dispersal which the Licensee acknowledges has the potential to increase due to project operations.

As identified in the Aquatic Terrestrial Invasive Species (ATIS) Study, the spread of terrestrial invasive plants along the shoreline is an ongoing, project-related adverse effect including degradation by the spread of invasive glossy buckthorn and exotic honeysuckle. Although these terrestrial invasive plants in identified the ATIS , *"The*

report concludes that the Project, overall, appears to support a healthy terrestrial and aquatic plant community with minimal presence of invasive plants."

We disagree this this conclusion. Invasive species, like glossy buckthorn and exotic honeysuckle, are known to become more abundant over time, replacing native vegetation. Because the spread of terrestrial invasive species is acknowledged as a project effect, the Licensee should propose measures to reduce their abundance and control their spread.

In the AL, the Licensee has acknowledged the presence of the aquatic invasive species (AIS) called the Spiny Water Flea or SWF (*Bythotrephes longimanusin*) in the public waters it uses. SWF eat and remove native zooplankton from the food chain, impacting native fish populations. They clog fishing gear. There is no control measure, except for stopping the spread of SWF to other waterbodies. The Reservoir is recognized by the WDNR as vector for SWF transmission to other waterbodies through transport on boats and boating equipment used on the Reservoir.

Research from the University of Minnesota Duluth [1] states *"We demonstrated that reservoirs, compared to natural lakes, tend to support higher overall densities of B. longimanus, implying indirectly that reservoirs facilitate increased establishment success for this invader."* SWF because it would not be present without the aquatic habitat provided by the Reservoir. As cited in this research, there are several factors that might benefit SWF populations in reservoirs, like the Gile Flowage, including water level fluctuations caused by project operations.

The AL's "Estimated Costs of Proposed Environmental Measures" annually budgets for an Aquatic and Terrestrial Invasive Species Plan and conducting biennial surveys as noted above, however there is **no plan or budget for mitigating the impacts of aquatic and/or terrestrial invasive species** when they are found project boundary, including Spiny Water Flea which has already been documented by the WDNR to be present within the project boundary.

Therefore, FOG recommends that the Licensee:

- develop an Invasive Species Monitoring and Mitigation Plan given NSPW has acknowledged the relationship between its project operations and the spread invasive species, including the presence of invasive Spiny Water Flea in Reservoir waters
- conduct AIS mitigation by installing aquatic invasive inspection and cleaning stations at the two most publicly used boat landings (Gile Park Boat Landing and County C Boat Landing) to reduce the transmission of SWF out of the Reservoir
- conduct an on-going AIS public education campaign through boat landing signage and public information about the Reservoir to engage users in reducing transmission of AIS into and out of the Reservoir

[1] Brown, M., Branstrator, D, Shannon, L. 2011. Population regulation of the spiny water flea (Bythotrephes longimanus) in a reservoir. Limnol. Oceanogr., 57(1), 2012, 251–271 E 2012, by the Association for the Sciences of Limnology and Oceanography, Inc. doi:10.4319/lo.2012.57.1.0251

Reservoir Signage/Information Plan

Respondents survey in the Recreation Study found signage to be lacking and needed. Signage directing the public and recreationalists to the Reservoir, as well as information to guide user access and safe use, are lacking. The only signs noted in the Recreation Study are NSPW's Reservoir ownership sign on the Gile Dam berm, the

proposed “Canoe Portage” sign, and interpretive signage at each Reservoir landing which FOG installed and maintains.

FOG recommends that NSPW develop a Gile Flowage Reservoir Signage/Information Plan to provide:

- directional signage to boat landings and other project facilities from adjacent state highways and city/town roads to support public access
- signage at each boat landing instructing Reservoir users in how they can reduce the spread of invasive species to support AIS mitigation strategies
- public outreach, including brochures, website information, and signage at each boat landing providing information about public use of the Reservoir including island camping, trash disposal, emergency information to promote safe, sanitary use of NSPW islands and Reservoir
- website accessible information about the Reservoir including boat landing locations, recreation use policies, maps, cultural/historic, geological, and ecological points of interest, emergency contact information, project operation drawdowns or flooding, and navigational hazards.
- interpretive signage at Gile Park Boat Landing to information about historic and cultural significance of the lands adjacent to the Reservoir and flooded to create the Reservoir, including the Montreal Company Historic District National Register of Historic Places and the Government Land Office-mapped trail known as the Flambeau Trail

On behalf of the Friends of the Gile Flowage, Inc. thank you for this opportunity to comment on the Review of Draft Application for Original License, Gile Flowage Reservoir Storage Project, FERC No. 15055-000, West Fork of the Montreal River, Iron County, Wisconsin, Northern States Power Company-Wisconsin (NSPW). Please contact me if you need more information pertaining to our review.

Sincerely,

Cathy Techtmann, President
Friends of the Gile Flowage, Inc.
Box 227, Montreal, WI 54550
cathyt220@hotmail.com
Phone: 715.360.6170

Document Content(s)

Friends of the Gile Flowage DLA Comments FERC No 15055-000.pdf.....1

AW Comments on DLA

Document Accession #: 20230615-5098 Filed Date: 06/15/2023

Thomas O'Keefe, PhD
Pacific Northwest Stewardship Director
okeefe@americanwhitewater.org
3537 NE 87th St
Seattle, WA 98115
425.417.9012

June 15, 2023

Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Re: COMMENTS on Draft License Application for Gile Flowage Storage Reservoir Project (FERC Project No. 15055)

Dear Secretary Bose:

Enclosed for filing in the above-referenced proceeding are Comments of American Whitewater on the Draft License Application filed by Northern States Power Company (d/b/a Xcel Energy) for a new license for the Gile Flowage Storage Reservoir Project (FERC Project No. 15055).

Thank you for your assistance. Please call if you have any questions or need additional information. I can be reached at 425-417-9012.

Sincerely,

Thomas O'Keefe, PhD
Pacific Northwest Stewardship Director

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

Northern States Power Company	)	Docket No. P-15055
d/b/a Xcel Energy	)	
Eau Claire, Wisconsin	)	Gile Flowage Storage Reservoir Project

COMMENTS OF AMERICAN WHITEWATER ON DRAFT LICENSE APPLICATION FOR GILE FLOWAGE STORAGE RESERVOIR PROJECT

I. INTRODUCTION

American Whitewater hereby files comments pursuant to 18 CFR § 5.16 on the Draft License Application filed by Northern States Power Company (d/b/a Xcel Energy) for a new license for the Gile Flowage Storage Reservoir Project, FERC Project No. 15055,[1] located on the West Branch Montreal River in Iron County, Wisconsin. Previously unlicensed, the Commission found that the Gile Flowage development is a part of a complete unit of development that includes the two downstream licensed hydroelectric projects (Superior Falls Project P-2587 and Saxon Falls Project P-2610) and is therefore required to be licensed.[2]

American Whitewater has a documented interest in recreational opportunities on this river dating back more than 30 years,[3] and these opportunities are directly impacted by project operations and have a project nexus. In addition to recreation, we have a strong interest in resource protection including fishery resources and riparian habitat. Several of our individual members who live in the region and value the river for its recreational opportunities and natural resources have also filed comments on this docket and related dockets for the Superior Falls Project (P-2587) and Saxon Falls Project (P-2610).

II. STATEMENT OF INTEREST

[1] Northern States Power Company - Wisconsin submits Draft Application for License for the Gile Flowage Storage Reservoir Project under P-15055, FERC eLibrary Submittal 20230317-5176, <https://elibrary.ferc.gov/eLibrary/docinfo?accession_number=20230317-5176>.
[2] *Northern States Power Company* 172 FERC ¶ 62,093 (2020), FERC eLibrary Accession Number: 20200819-3041, <https://elibrary.ferc.gov/eLibrary/docinfo?document_id=14884518>.
[3] For a more detailed discussion of the history of our interest in this Project, see Comments of American Whitewater on the Pre-Application Document and Study Request under P-2587 et al., FERC eLibrary Submittal 20200609-5075, <https://elibrary.ferc.gov/eLibrary/docinfo?accession_number=20200609-5075>.

American Whitewater is a national non-profit 501(c)(3) river conservation organization founded in 1954 with approximately 50,000 supporters, 7,000 dues-paying members, and 100 local-based affiliate clubs, representing whitewater enthusiasts across the nation. American Whitewater's mission is to protect and restore America's whitewater rivers and to enhance opportunities to enjoy them safely. The organization is the primary advocate for the preservation and protection of whitewater rivers throughout the United States and connects the interests of human-powered recreational river users with ecological and science-based data to achieve the goals within its mission. Our vision is that our nation's remaining wild and free-flowing rivers stay that way, our developed rivers are restored to function and flourish, that the public has access to rivers for recreation, and that river enthusiasts are active and effective river advocates.

American Whitewater has a direct interest in river and riparian conservation and resource protection, water quality, appropriate public access to the river that protects resource values, and instream flows for the benefit of fishery resources, river and riparian condition, and recreation impacted by the Gile Flowage Storage Reservoir Project. A significant percentage of American Whitewater members live in Wisconsin, Minnesota, and Michigan and make use of the recreational opportunities available on the Montreal River and its two major branches. The history of whitewater boating on the West Branch Montreal River is described in additional detail in the National Whitewater Inventory maintained on our website,[4] and in our comments on the Pre-Application Document for related dockets of the Superior Falls Project (P-2587) and Saxon Falls Project (P-2610).[5]

III. COMMENTS

Pursuant to 18 CFR § 5.16, American Whitewater provides these comments on the Draft License Application.[6] We appreciate that the Draft License Application appropriately recognizes that "the West Fork downstream of the Gile Dam and the Montreal River downstream of the Saxon Falls Project are popular for whitewater boating when higher flows are available" and "water releases from the Gile Dam have direct effect on the navigability of both."[7]

---

[4] https://www.americanwhitewater.org/content/River/view/river-detail/2300/main

[5] Comments of American Whitewater on the Pre-Application Document and Study Request under P-2587 et al. 6/9/2020, Accession Number 20200609-5075, <https://elibrary.ferc.gov/eLibrary/docinfo?document_id=14867525>.

[6] Northern States Power Company - Wisconsin submits Draft Application for License for the Gile Flowage Storage Reservoir Project under P-15055, FERC eLibrary Submittal 20230317-5176, <https://elibrary.ferc.gov/eLibrary/docinfo?accession_number=20230317-5176>.

[7] At Page E-70, Northern States Power Company - Wisconsin submits Draft Application for License for the Gile Flowage Storage Reservoir Project under P-15055, FERC eLibrary Submittal 20230317-5176, <https://elibrary.ferc.gov/eLibrary/docinfo?accession_number=20230317-5176>.

Need for a Coordinated Environmental Review and Comprehensive Plan for the Waterway

American Whitewater supports coordination of license requirements for the Saxon Falls Project (P-2610) with the Gile Flowage Storage Reservoir Project (P-15055). In past comments we have noted the importance of taking an integrated approach to the licensing of the Superior Falls Project, Saxon Falls Project, and the Gile Flowage Storage Reservoir Project;[8] such an approach is necessary for purposes of a basinwide approach and an outcome that is best adapted to a comprehensive plan for improving or developing a waterway or waterways for all beneficial public uses including recreation.[9] Given the interrelated nature of operations of these three projects,[10] and the fact that all are undergoing relicensing simultaneously, American Whitewater believes it would be in the public interest to evaluate all three projects and the proposed protection, mitigation, and enhancement measures in a single environmental review document.

The Commission should include a clear plan for how integration and coordination between these three projects, for both recreational and environmental measures, can be best achieved. We believe that reviewing all three projects through a single environmental review document would be most efficient for all stakeholders, lead to better environmental outcomes, and be in the public interest. This approach would allow for a comprehensive understanding of individual project effects and cumulative effects and provide an efficient means of evaluating interrelated issues associated with all three projects in the basin; it would enhance the ability of the Commission to issue license decisions that are best adapted to a comprehensive plan for the waterway consistent with 16 U.S. Code § 803(a).

In the event that the Commission elects to proceed with two separate environmental reviews and issuance of separate licenses, American Whitewater recommends that the license for Gile Flowage Storage Project includes a specific requirement to evaluate and consider modification of license conditions upon issuance of any separate license for the Superior Falls and Saxon Falls projects.

---

[8] Comments of American Whitewater on Request To Use Traditional Licensing Process For Gile Flowage Storage Reservoir Project under P-15055, FERC eLibrary Submittal 20201217-5163, <https://elibrary.ferc.gov/eLibrary/docinfo?accession_number=20201217-5163>.

[9] 16 U.S. Code § 803(a).

[10] The Draft License Application explicitly states that "The Project was constructed in 1940 to store water for downstream generation at NSPW's Saxon Falls (FERC No. 2610) and Superior Falls (FERC No. 2587) hydroelectric projects." At Page A-1, Northern States Power Company - Wisconsin submits Draft Application for License for the Gile Flowage Storage Reservoir Project under P-15055, FERC eLibrary Submittal 20230317-5176, <https://elibrary.ferc.gov/eLibrary/docinfo?accession_number=20230317-5176>.

Section 2.2.2.2

We appreciate and support the development of a Whitewater Recreation Plan, that includes the Saxon Falls Project, as a proposed environmental measure.[11]

Section 3.5.3

We support the proposed project operations with scheduled releases for whitewater boating opportunities downstream included among project purposes for water release from Gile Flowage.[12]

Section 3.8.1.1

We are unclear what is meant by the statement that "NSPW operates and maintains the canoe portage at the Gile Dam."[13] While we generally appreciate the acknowledgement of the need for portage around barriers to navigation (in this case a dam), the type of watercraft used for travel on the reservoir is very different from the watercraft used to travel down river. Traveling on the reservoir, portaging the dam, and continuing downstream on the river may be theoretically possible, but we don't anticipate this to be how most users will utilize the resource. Watercraft designed for use on the reservoir are not optimized for travel on whitewater. Watercraft designed for the river environment downstream of Gile Flowage are specialized whitewater boats capable of navigating class IV whitewater. Rather than describing this site as a portage, we believe it would be more appropriate to describe the site as a take-out accessible for paddlecraft using the reservoir and a put-in for whitewater boaters traveling downstream on the river.

The "canoe portage" as depicted in Figure 3.8.1.1-1 should not be actively promoted.

Section 3.8.1.3.1

---

[11] At Page E-11, Northern States Power Company - Wisconsin submits Draft Application for License for the Gile Flowage Storage Reservoir Project under P-15055, FERC eLibrary Submittal 20230317-5176, <https://elibrary.ferc.gov/eLibrary/docinfo?accession_number=20230317-5176>.

[12] At Page E-48, Northern States Power Company - Wisconsin submits Draft Application for License for the Gile Flowage Storage Reservoir Project under P-15055, FERC eLibrary Submittal 20230317-5176, <https://elibrary.ferc.gov/eLibrary/docinfo?accession_number=20230317-5176>.

[13] A Page E-70, Northern States Power Company - Wisconsin submits Draft Application for License for the Gile Flowage Storage Reservoir Project under P-15055, FERC eLibrary Submittal 20230317-5176, <https://elibrary.ferc.gov/eLibrary/docinfo?accession_number=20230317-5176>.

As an alternative to signage for a portage, we recommend signage directing paddlecraft utilizing the reservoir to the take-out at Gile Park. We disagree with the recommendation that a put-in sign downstream of the dam is unnecessary;[14] it is critical to have visible safety signage at the access point below the dam to discourage those who might be traveling in watercraft on the reservoir that are inappropriate for the whitewater downstream of the dam. This is particularly important given the fact that the most challenging whitewater on the river at Gile Falls is just ⅓ of a mile downstream of the dam but not visible from the access point at the dam.

American Whitewater recently developed safety signage standards with support from the U.S. Coast Guard and the input of approximately 200 river safety professionals. Our toolkit that includes signage templates, iconography, and safety messages appropriate for this site is available on our website at: <https://www.americanwhitewater.org/safetysignage>. American Whitewater requests a consultation role in the development of the signage plan.

Section 3.8.1.3.5

We challenge the assumption that "the number of recreation days for recreation facilities at the Gile Flowage Storage Reservoir Project is not expected to increase by 2040," based on the fact that "current use" is primarily by recreationists living within 50 miles of the Gile Flowage Storage Reservoir Project. Trends in visitor use at recreation destinations have been very dynamic over the past three years given the impacts of the COVID-19 pandemic.

Although Gile Park and County C Landing are mentioned in this section, there is no discussion of the adequacy of existing facilities at the tailwater area below Gile Dam generally referred to in the document as the "canoe portage." We support development of accessible fishing opportunities in the tailwater area and accommodations for barrier-free access to the river for those who have an interest in using the site as a launch point for whitewater boating. As noted above, appropriate safety signage is critical for this site.

The discussion of adequacy of existing facilities at the County C Landing includes no mention of challenges with using the site at low reservoir elevations. A more comprehensive discussion of project-related effects of reservoir elevation on adequacy and usability of boat ramps should be included in this section. Specific measures should be implemented to address these issues.

[14] At Page E-73, Northern States Power Company - Wisconsin submits Draft Application for License for the Gile Flowage Storage Reservoir Project under P-15055, FERC eLibrary Submittal 20230317-5176, <https://elibrary.ferc.gov/eLibrary/docinfo?accession_number=20230317-5176>.

Section 3.8.2.1

American Whitewater supports more active management of recreational facilities and amenities provided by the Gile Flowage Storage Reservoir Project. Management of camping, and specifically sanitation, on the islands on Gile Flowage should be evaluated.[15] We believe a Recreation Management Plan should be developed, with consultation requirements that include interested stakeholders, in addition to the proposed Whitewater Recreation Plan.

Section 3.8.3

American Whitewater supports the proposed measures for 1,200 cfs releases from Gile Flowage in June and September to provide a whitewater boating opportunity. We concur with the analysis presented that the proposal would not result in significant adverse effects to reservoir-based recreation given the timing to take advantage of higher reservoir inflows in June and a September event to take place after the primary open water recreation season. In the event sufficient water is available for a second release day on weekends when releases are planned, we have an interest in evaluating this opportunity. The proposed three-hour time period is likely adequate to provide a whitewater boating opportunity but we request that this be evaluated post-license along with associated reporting requirements. This evaluation should also include an assessment of the ability for the release to provide an opportunity later in the day in the Saxon Falls Gorge.

American Whitewater supports the development of a Whitewater Recreation Plan developed and implemented within one year of license issuance. We recommend that the plan include a description of the following:

(1) the frequency, magnitude, duration, and timing of each whitewater release event during the first three-year period and the mechanism for determining such parameters during subsequent years;
(2) operational, biological, and other constraints upon whitewater release events;
(3) the ongoing involvement (including annual meetings) that include American Whitewater, National Park Service, Friends of Gile Flowage, and other license participants as identified in this proceeding on development of the Whitewater Recreation Plan;
(4) the mechanism for timing whitewater release events to coincide with natural or planned hydrologic events including seasonal or maintenance drawdowns of Gile Flowage, integrate with recreational opportunities on the Montreal River associated with operation of the Saxon Falls Project, or coordinate with project generation or other

[15] On sites with limited organic soil, small vault toilets such as those used in alpine settings should be considered.

License Article obligations to achieve greater flow volumes in desired reaches or habitats;
(5) mechanism for timing whitewater release events to avoid conflicts with other scheduled whitewater release events in the region;
(6) mechanism for notifying whitewater boating stakeholders of whitewater boating opportunities during scheduled whitewater release events and other natural or planned high flow events (within the range of acceptable flows for whitewater boating) within the Montreal River;
(7) mechanism for assessing the boaters' satisfaction during whitewater release events and any impacts to aquatic and terrestrial resources;
(8) mechanism for recording the number of participants, safety incidents, and costs; and
(9) the timing and other restrictions necessary to minimize impacts to aquatic resources and to minimize impacts of reservoir fluctuations on Gile Flowage.

We recommend the following license condition for development of the Whitewater Recreation Plan:

> Within six months of license issuance, the Licensee shall develop a Whitewater Recreation Plan in consultation with American Whitewater, Friends of Gile Flowage, National Park Service (NPS), and other consulting parties as identified in this proceeding and submit the plan to the Commission for approval. The plan shall be implemented for the first June or September whitewater release event following Commission approval.
>
> In the development of the plan, the Licensee shall provide a minimum of thirty days for consulting parties to comment and make recommendations. When filing the plan with the Commission, the Licensee shall include documentation of consultation, copies of comments and recommendations, and specific descriptions of how comments and recommendations from consulting parties are accommodated by the Whitewater Recreation Plan. If the Licensee does not adopt a recommendation, the filing shall include the Licensee's reasons based upon project-specific information.

We recommend the following license condition for ongoing monitoring, management, and consultation on any changes to the Whitewater Recreation Plan following its initial Commission approval:

> The Licensee shall consult and collaborate with American Whitewater, Friends of Gile Flowage, National Park Service, and other consulting parties as identified in this proceeding on an annual basis to set the schedule for whitewater release events and determine whether the Whitewater Recreation Plan is providing a meaningful

whitewater experience and whether the plan should be modified to improve the experience. The Licensee and consulting parties may request that the Commission revise the plan based upon data collected on whitewater boater experiences. In the event that the plan is revised, the Licensee shall continue to consult annually for the term of the license with consulting parties on whether the plan shall be further modified and to schedule whitewater release events.

American Whitewater appreciates and supports the proposal to provide daily flow information for the Gile Flowage Dam that would allow paddlers within a reasonable proximity to the Gile Flowage Storage Reservoir Project to take advantage of natural flows in the West Fork and Saxon Falls Gorge. The flow information should include both the release from Gile Flowage Dam and flow downstream of the Saxon Falls Hydroelectric Project. American Whitewater supports the Licensee providing access to real-time flow information on the company website utilizing an Application Programming Interface (API) that provides data through a server that allows other clients to access the data.[16] This would allow our organization and others to integrate the data into websites that provide information to the public. The applicant's website should also include information on how to access the river and any forecast or operational information that could affect instream flows. American Whitewater requests a consultation role for the development of the presentation and format of flow information.

IV. CONCLUSION

Thank you for the opportunity to provide comments on the Draft License Application. Please do not hesitate to contact me if you have any additional questions.

Respectfully submitted on June 15, 2023,

Thomas O'Keefe, PhD
American Whitewater

[16] Xcel Energy currently provides data on reservoir elevation and discharge for Chippewa Flowage, Turtle-Flambeau Flowage, Rest Lake Dam at <https://wi.my.xcelenergy.com/s/energy-portfolio/hydro>.

Document Content(s)

NPS Comments on DLA

United States Department of the Interior
NATIONAL PARK SERVICE
Interior Regions 3, 4, 5
601 Riverfront Drive
Omaha, NE 68102

June 15, 2023

1.A.2 (IR345-RTCA/FERC) Electronic Filing

Ms. Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington DC. 20426

Re: National Park Service Comments on the Draft License Application for Gile Flowage Storage Reservoir Project (P-15055)

Dear Secretary Bose:

The National Park Service (NPS) submits the following comments on the Draft License Application (DLA) for the Gile Flowage Storage Reservoir Project, P-15055, (Project) that Northern States Power Company - Wisconsin (Applicant) filed with FERC on March 17, 2022.

The NPS authority to consult with FERC and hydropower permit applicants concerning project effects on natural, cultural, and outdoor recreation resources is found within the Federal Power Act (18 CFR 4.38(a), 5.41(f)(4)-(6), and 16.8(a)); the Outdoor Recreation Act (Pub Law 88-29), the NPS Organic Act (39 Stat. 535), and the Wild and Scenic Rivers Act (PL 90-542). The NPS Hydropower Assistance Program represents the interests of the public, national parks, and related areas in hydropower proceedings to protect natural and cultural resources and provide sustainable outdoor recreation access and opportunities.

The NPS offers comments and recommendations for improved natural, cultural, and recreational considerations in the development, and management of the Project. These recommendations include (see Enclosure 1):

- Recommendation 1: Flow and Lake Level Information and Whitewater Plan
- Recommendation 2: Island and Signage Management Plans
- Recommendation 3: Enhancing Whitewater Boater Access in the Tailwater Area
- Recommendation 4: Accessible Fishing Platform and Pathway in the Tailwater Area
- Recommendation 5: County Highway C Landing Maintenance and Mitigation
- Project Boundary Comments
- Environmental Review Process and Coordination with Saxon and Superior Comments

In addition, the NPS recommends the Applicant provide multiple outreach and public engagement opportunities throughout the licensing process and in development of any management plans, whitewater plans, and enhancements to allow the surrounding communities, tribal governments, land managers, the Wisconsin Department of Natural Resources (DNR), and diverse interest groups to provide input on and inform the project development.

Furthermore, the NPS encourages a site visit for all interested stakeholders including, but not limited to, local land managers, Wisconsin DNR, Michigan DNR, American Whitewater (AW), Friends of the Gile Flowage (FOG), the NPS, and local communities. The NPS recommends the Licensee conduct the site visit before developing the Final License Application to allow collaboration on the development of the protection, mitigation, and enhancement measures.

The NPS appreciates consideration of these comments on the Gile Flowage DLA. Should you have any questions or comments, please contact Alyssa Walker, Outdoor Recreation Planner, at alyssa_l_walker@nps.gov or (771) 216-1956.

Sincerely,

DAVID THOMSON

Digitally signed by DAVID THOMSON
Date: 2023.06.15 14:16:31 -05'00'

David Thomson
Programs Manager
Rivers, Trails & Conservation Assistance, Hydropower Assistance, and Accessibility Programs

Enclosure 1 – Recommendations and Comments

Enclosure 1 - NPS Comments and Recommendations

Protection, Mitigation, and Enhancement Measures

Recommendation 1: Flow and Lake Level Information and Whitewater Plan

In the DLA, the Applicant proposes providing flow release and storage reservoir elevation information on the internet – estimating a capital cost of $50,000 and annual Operation & Maintenance cost of $1,000.[1] The NPS requests the Applicant provide additional information on how these above costs were determined. In addition, the NPS recommends the Applicant share real-time flow information for the public online and the data be shareable for use by third-party sites using Application Programming Interface (API).

The NPS also recommends the Applicant:

- Provide whitewater class and timing/amount of recreation flow information to the public online.
- Provide signage at portage sites and recreation areas on the reservoirs that include a QR code and the website address for the public to access up-to-date information on real-time flows, reservoir elevation, and flow release schedules.
- Consult with the NPS, the Wisconsin DNR, FOG, AW, and local recreation users on developing a public website.

Moreover, the Applicant "is proposing to develop a Whitewater Recreation Plan in consultation AW and NPS within one year of license issuance."[2] The NPS recommends the Applicant does following for the Whitewater Recreation Plan:

- Consult with the FOG as flow releases may impact their properties bordering Gile Flowage (project impoundment).
- Consult and coordinate with AW, FOG, and the NPS to select dates for flow releases and announcement of the scheduled flow releases.
- Invite the Wisconsin DNR and Michigan DNR to participate as consultants in the Whitewater Recreation Plan or the annual flow release date selection.

Rationale 1

The NPS supports the Applicant's recommendation to provide flow release information to the public online. The additional information the NPS requests regarding website content, location, and signage will help improve the visitor experience and safety in the project area. It is pertinent to identify where this information will be located on the internet to give stakeholders and the public a better understanding of where to find flow release and storage reservoir

[1] Gile Flowage Storage Reservoir Project, P-15055, Draft License Application, Exhibit A, A-8, Accession Number: 20230317-5176

[2] Gile Flowage Storage Reservoir Project, Draft License Application – Exhibit E, FERC Project No. 15055, Environmental Analysis, E-82, Accession Number: 20230317-5176

elevation information. Moreover, ensuring the Applicant creates the website data in a way that allows third-party sharing of the data will allow for greater public access to the information.

The NPS requests the Applicant provide real-time flow information, whitewater class and difficulty level, and other relevant site information that is easily accessible, including signage and online, to allow advanced and more informed recreational decisions by the public thereby improving the visitor experience and safety. Other hydropower project licensees provide this information to the public, including Grandfather Falls (P-1966).

The NPS supports the Applicant's recommendation to develop and consult with AW and the NPS on the Whitewater Release Plan. Including the FOG within the Whitewater Release plan brings potentially affected interested stakeholders to the discussion and will help build a more balanced Whitewater Release Plan. Finally, including an annual meeting for the Applicant, AW and FOG to meet and select dates for flow releases will ensure time is set aside for the planning and discussing of the best days/times to schedule flow releases with interested stakeholders. With this information, interested stakeholders and the Applicant can post information about the scheduled flow releases in advance for the public to plan ahead for whitewater boating.

Recommendation 2: Island and Signage Management Plans

Island Management Plan

The NPS requests the Applicant develop an Island Management Plan (Island Plan). The purpose of the Island Plan is to develop guidance and define a strategy for managing outdoor recreation use and educational opportunities while protecting natural, riparian, and cultural resources. The NPS recommends the Island Plan, at a minimum, include the following: a purpose, background, proposals for recreation improvements, management strategies, maintenance, monitoring, and implementation schedule. Furthermore, the Island Plan should include a natural resource survey to develop a baseline of existing plants and animals are present on the island.

The NPS recommends the Applicant:

- Develop the Island Plan in consultation with the NPS, FOG, and other interested stakeholders.
- Manage current and projected future recreation use through improvements such as preventive and management measures, such as garbage bins and portable toilets or latrines.
- Management strategies should include signage, visitor education, Leave No Trace policies, and safety measures.
- The Island Plan should describe how frequently the Applicant will monitor the islands and mitigate any litter and vandalism issues.
- Ensure island clean-ups, including maintaining the pit toilets and garbage bins.

Signage Management Plan

The NPS requests the Applicant develop a Signage Management Plan (Signage Plan). The purpose of the Signage Plan is to develop guidance and define a strategy for developing,

managing, and maintaining signage around the reservoir. The NPS recommends developing and designing the Signage Plan in consultation with the NPS, FOG, AW, and other interested stakeholders and, at a minimum, include the following:

- A purpose, background, signage locations, signage content, a maintenance schedule, monitoring, and an implementation schedule.
- Interpretation, background information on Gile Flowage, flow release schedules, maps of the area, access sites situated on the reservoir, the portage route, a map of the river downstream of the dam, and regulations.
- Descriptions of the hydropower project and how the project is subject to frequent flow changes.

Rationale 2

Island Management Plan

An Island Management Plan helps ensure the Applicant maintains the natural and recreational resources in good condition and litter-free. There are 43 islands in Gile Flowage, around half of which are being used for recreation by the public. Based on the Applicant's recreation study found in the DLA, hiking trails, fire rings, trash, and other human influences were identified on the islands.[3] Such use is described below:

"Five islands had obvious landing areas, eight exhibited hiking trails, 13 had at least one fire ring, 11 showed signs of at least one camp, and several had trash. One island had a duck blind while another island has a memorial plaque fixed to a rock."[4]

Recreation use is likely underrepresented in the above description since Members of FOG volunteer their time to maintain the islands, collecting hundreds of pounds of garbage each year.

All the islands are located within the Project APE, and most are owned by the Applicant, but no measures have been implemented or proposed by the Applicant to address public use on the islands. An Island Plan would help the Applicant manage recreational use on the lands and waters within its boundaries and assist in protection of natural, cultural, and recreational resources. Furthermore, including public education within the Plan will help the Applicant mitigate and prevent litter, safety, and vandalism issues.

Signage Management Plan

A Signage Management Plan will ensure necessary safety, geographical, and other important information is provided to visitors of the area. Based on survey respondent data in the DLA, many respondents found signage lacking and warranted.[5] The respondents would like

[3] Gile Flowage Storage Reservoir Project, Draft License Application – Exhibit E, FERC Project No. 15055, Environmental Analysis, E-77, Accession Number: 20230317-5176

[4] Gile Flowage Storage Reservoir Project, Draft License Application – Exhibit E, FERC Project No. 15055, Environmental Analysis, E-77, Accession Number: 20230317-5176

[5] EA Project No.: 16154.01, Version: Updated Study Report, Pages 302, 450, 606, 614, March 2023

information about obstructions within the reservoir, where portage routes and access sites are located, and water level information.[6] This information is essential for visitors to understand the area better.

Recommendation 3: Enhancing Whitewater Boater Access in the Tailwater Area

In the DLA, the Applicant is proposing to install a take-out sign for the canoe portage and shoreline fishing area while also improving the put-in site to mitigate erosion.[7] The NPS supports these improvements and recommends the Applicant:

- Enhance the Tailwater area of Gile Flowage to include a sign for the put-in below the dam.
    - While the Applicant states that they operate and maintain a canoe portage at the Gile Dam, this site is not used as a portage route for through paddlers. Those wanting to take out near the dam do so at Gile Park, which is also where they generally put their boats in the reservoir.
- Enhance the Tailwater area access site for whitewater boaters as well as amenities to support these users.
    - Whitewater boaters use the site to access the Tailwater area and the site needs maintenance due to erosion.
- Develop the Tailwater area improvements in consultation with the Wisconsin DNR, the NPS, AW, the FOG, and other interested stakeholders.

Rationale 3

Whitewater boaters utilize this area to put-in at the Tailwater area. Enhancing the put-in site for whitewater boaters will meet the increasing demand of paddlers. Currently, the Tailwater area access site is not adequate for whitewater boaters who use this area to put-in; this was noted by participants of the study to examine potential whitewater boating releases.

Recommendation 4: Accessible Fishing Platform and Pathway

The NPS recommends the Applicant place a fishing platform and pathway that is compliant with Americans with Disabilities Act (ADA) standards along the shoreline to ensure recreation opportunities for people with limitations or disabilities. The NPS recommends the Applicant:

- Consult with the Wisconsin DNR, the NPS, local land managers, and other stakeholders regarding the location for the accessible platform and pathway
    - Gather and analyze information to better understand the potential effects to fisheries and spawning locations, especially in the Tailwater Area in consultation with the Wisconsin DNR, Michigan DNR, and other stakeholders

[6] EA Project No.: 16154.01, Version: Updated Study Report, Pages 302, 450, 606, 614, March 2023

[7] Gile Flowage Storage Reservoir Project, Draft License Application – Exhibit E, FERC Project No. 15055, Environmental Analysis, E-73 Accession Number: 20230317-5176

Rationale 4

The installation of a platform that is ADA-compliant will meet recreational needs and provide a reliable accessible way for the public to fish. In response to the recreation survey conducted by the Applicant, a respondent indicated that the closure of the embankments made it impossible for people with disabilities to fish the shoreline.[8] This comment displays a need for more opportunities for people with disabilities to fish and recreate on the reservoir. In addition, providing accessible recreation opportunities enables access for visitors with limitations or disabilities to the Project area. Installing an ADA-compliant platform and pathway and necessities, e.g., bathrooms, signage, and trash bins, will help meet this need.

Gathering information about the Tailwater area for fisheries and fish spawning habitats will give stakeholders and the Applicant a better and complete understanding of the Tailwater area in order to balance recreation needs with conservation efforts.

Regarding angler needs, the installation of an ADA-compliant platform will meet recreational needs and provide a reliable accessible way for the public to fish. Survey respondents noted that they fish in the Tailwater area and would like to see the area improved.[9] A potential platform in the Tailwater area will alleviate barriers for the public to access the Tailwater area, pending analysis of potential effects to fisheries and spawning in this location.

Finally, it is important that recreational usage is accommodated via an ADA-compliant parking lot near the ADA-compliant platform. A parking lot for visitors is currently not available at the dam. The Applicant describes parking being available at Gile Park or along neighborhood streets for the put-in below the dam, which is insufficient.[10]

Recommendation 5: County Highway C and Sucker Hole Landings Maintenance and Mitigation

The NPS recommends the Applicant consult with land managers to provide maintenance and mitigation measures at the access road to Sucker Hole Landing and at County Highway C Landing to ensure public use of the docks and ramp at low water levels. Additionally, the Applicant should partner with the land managers to conduct yearly maintenance on the ramp and docks to ensure these are in working order, safe, and reliable for public use, and do so in consultation with the Wisconsin DNR, local land managers, the NPS, FOG, and other interested stakeholders.

Rationale 5

County Highway C Landing is a major access site for the public on the reservoir. Low water levels on the reservoir directly relate to project operation and impacts access to landings

[8] EA Project No.: 16154.01, Version: Updated Study Report, Page 426, March 2023
[9] EA Project No.: 16154.01, Version: Updated Study Report, Page 162, 170, 370, 622, 745, March 2023
[10] Gile Flowage Storage Reservoir Project, Draft License Application – Exhibit E, FERC Project No. 15055, Environmental Analysis, E-80, Accession Number: 20230317-5176

located within the Project boundary. This indicates a responsibility of the Applicant to mitigate and improve these access sites.

DLA survey respondent data, indicate significant problems launching boats, using the docks safely, and boating safety County Highway C Landing due to low reservoir levels and facilities that need maintenance.[11] Many survey respondents indicated problems with the ramp and dock at County Highway C Landing; respondents want the ramp to be replaced and widened with a new dock.[12] Respondents also stated that the ramp and docks were unsafe and hazardous to use.

Moreover, on page E-79 of the DLA, the Applicant suggested that when County Highway C Landing "is not usable at low water levels, the nearby Town of Pence Landing and Gile Park landings are appropriate substitutes."[13] However, survey respondents indicated that it is also difficult to launch boats at Gile Park and Town of Pence Landing when reservoir levels are low.[14] The NPS recommends that this is not an appropriate substitute to low water levels and recreational demands. The only site currently available to launch at during low water levels is Sucker Hole Landing. This particular launch site requires a minimum 20-minute drive along a gravel road not suitable for larger boats. These conditions may deter visitors and thereby does not address user demand.

The County Highway C Landing access site is centrally located for recreating access on Gile Flowage. Yet, according to survey respondents, it is difficult to use during low reservoir levels. Ensuring the Applicant consults with land managers to help maintain the docks and ramps will help mitigate future maintenance costs and meet current and future recreation use needs.

Other NPS Comments

Project Boundary

The NPS recommends the proposed Project boundary match the proposed APE, particularly in the area below the dam. There is a direct impact of dam-related activity downstream from dam operations. The Project boundary should be the same as the APE to capture all impacts. Additionally, recreational use and the access site below the dam emphasizes public use downstream of the dam, as stated above under Recommendation 3. Moreover, the Applicant proposes 16 ft of water fluctuation and flooding easement rights. We recommend the proposed Project boundary be established at 1500.0 ft NGDV, which is consistent with flowage and easement and improve protection of the riparian zone.

---

[11] Gile Flowage Storage Reservoir Project, Draft License Application – Exhibit E, FERC Project No. 15055, Environmental Analysis, E-76, Accession Number: 20230317-5176

[12] EA Project No.: 16154.01, Version: Updated Study Report, Page 190, 194, 230, 246, 274, 334, 338, 342, 386, 406, March 2023

[13] Gile Flowage Storage Reservoir Project, Draft License Application – Exhibit E, FERC Project No. 15055 Environmental Analysis, E-79, Accession Number: 20230317-5176

[14] EA Project No.: 16154.01, Version: Updated Study Report, Pages 186, 458, 634, 642, 666, 670, 718, 730, 734, 750, March 2023

Environmental Review Process and Coordination with Saxon and Superior

As stated in previous letters, Saxon Falls (P-2610) and Superior Falls (P-2587) Projects depend on the Gile Flowage Project. The NPS recommends a comprehensive flow model and environmental review of all three Projects at one time to provide stakeholders with more complete information on project effects. See the following:

"Due to the dependance of Saxon Falls and Superior Falls Projects on releases from Gile Flowage for power generation, and the impacts of those releases on flow-dependent recreation on the West Fork Montreal River and Montreal River below Saxon Falls, and water-level-affected recreation and land use at Gile Flowage, assessing impacts on recreation at all three projects would be best accomplished through a single environmental review process. The single process would also address impacts to other resources that are affected by flows and reservoir levels stemming from the interconnected project operations. This approach would allow for a comprehensive understanding of individual project effects and cumulative effects and provide an efficient means of evaluating interrelated issues associated with all three projects in the Montreal River Basin. This, in turn, would enhance the ability of FERC to issue license decisions that are best adapted to a comprehensive plan for the waterway consistent with 16 U.S. Code § 803(a)."[15]

[15] National Park Service Comments on the Initial Study Report for Gile Flowage Storage Reservoir Project (P-15055), Accession Number: 20221128-5058

Document Content(s)

Whitewater Boater Comments on DLA

Jacob Ring, Ironwood, MI.
Hello, I am a whitewater paddler and resident of Ironwood, Michigan. I have been a stakeholder in this process and have helped coordinate the flow studies with the upper midwest paddling community and other stakeholders. I have reviewed the draft application and have a few comments to share. First, it is of the utmost importance that the specific dates of any whitewater releases are coordinated with the upper midwest paddling community. There are scheduled release dates throughout WI and MN in the summer that we want to avoid. I am happy to assist in that coordination and believe we can come to a mutually agreeable set of dates.

I am grateful to hear that there will be online access to current flow information. The language is unclear as to whether flow data will be available for both the West Branch and Saxon Falls, or just the West Branch. I would deem it a high priority to have flow information available for both the West Branch and Saxon Falls gauges. The flows are almost always different and on any given day, a paddler may want to chose one or the other based on current flows. This is the most responsible way to share flow information and allows paddlers to make safe decisions when making choices where to paddle. Really a big priority to have both readings available for online access!

The Montreal Canyon and the West Branch Montreal River contain world class whitewater. The West Branch contains the longest class IV rapid in Wisconsin, Rock Cut Falls. The Montreal Canyon contains fantastic class II and III rapids deep within a conglomerate canyon that has held every visitor in awe. The canyon could truly be a wonder of the world and even without whitewater would be worth visiting. It happens to have fantastic whitewater and great views! The level of difficulty in the canyon makes it accessible to a wide range of paddlers. If that wasn't enough, during the flow studies we had paddlers driving 9+ hours to try their hand at these rivers. For reference, they could drive to many rivers with whitewater but chose the Montreal system as their priority. Not only is the demand and desire for these releases strong, but also the potential for them to impact the surrounding communities in a positive way. I look forward to seeing all the benefits that recreational releases on the Montreal River will bring to Hurley, Ironwood, and beyond.

Document Content(s)

Jeff Ford, Blue Mounds, WI.
I am a whitewater kayaker in the state of Wisconsin. I would like to add my support for the scheduled releases for whitewater boating on the West Branch Montreal and Montreal Canyon included in this draft license application. Both rivers are unique in WI - the Montreal Canyon for it's scenic beauty, and the West Branch for its continuous high level class 4 whitewater. It is difficult and a rare treat to catch these rivers at boatable flow levels, and the inability to plan these opportunities ahead of time greatly inhibits the paddling of these rivers. In my opinion, having scheduled releases will greatly increase the accessibility of these rivers for a much greater number of paddlers. My only suggestion to improve the proposed would be to schedule releases on consecutive days, so that paddlers driving long distances to them would be able to enjoy them for a full weekend.

Document Content(s)

Paul Janda, Cottage Grove, WI.
I have been an avid kayaker and canoeist for many years. Outdoor recreation in undeveloped, wild places has always been a very important part of my life. As a Wisconsin resident, I have very few places to enjoy paddling on quality whitewater.

I am very excited about upcoming plans for scheduled releases from the Gile Flowage. My paddling friends and I have been waiting for many years to see some improvements in the ways that water is released from the flowage.

The Montreal River is a very special place for whitewater paddling. It is a beautiful river that features a rare combination of beauty, geology, wilderness and spectacular rapids. The Montreal River has always been a favorite and cherished destination for whitewater enthusiasts. The class 4 section in the West Branch is extremely desirable. The high, beautiful walls of the canyon section are always a special treat for those who can catch the river at a navigable flow.

Every year, many people miss the opportunity to enjoy the Montreal River, purely because of unpredictable and inadequate water levels. The following improvements have been a long time dream for many river enthusiasts:
Scheduled dam releases from Gile flowage, such that the lower canyon section can be paddled on the same day as the West Branch.
Publish flow rates out of the Gile flowage.

Release schedules will have a large impact on who may attend. To maximize usage of the releases:
1. Saturday or Sunday
2. Start early in the day, so people have time to enjoy the same water as it passes through the canyon section
3. Avoid weekends where other dams might have already scheduled a recreational release. We have so few opportunities to enjoy our wild rivers and we want to maximize usage of these valuable releases. I would be happy to investigate and provide information about the schedules of other dams (for example, Wausau Whitewater Course, Jim Falls and Grandfather Falls)

Thank you, very much, for enabling better and practical recreational usage of the Montreal River. I appreciate your efforts to offer access to a unique and special place.

Sincerely,
Paul Janda

Document Content(s)

Gary M Grenda, JR, ORLAND PARK, IL.
Hi,

I am commenting on behalf of myself and fellow whitewater paddlers of the northern Midwest. After reviewing the proposal for recreational whitewater releases on the Montreal River, I am happy to express that we are excited for this opportunity.

As it stands, the proposed releases will be in June and September. Those timeframes are great for us. However, I would like to make clear, that the later in the month the June release occurs, the more valuable it will be to us. Whitewater opportunities in this region are most available in the months of April and May, with June being next best. It is a fairly linear drop off of available whitewater to paddle as the summer progresses. For example, a June 30th release on the Montreal would be much more valuable than a June 1st one because on June 1st, it is more likely (weather dependent of course) that other paddling opportunities are still available. I would also like to make sure it is clear, that ever having these scheduled releases in April or May would provide almost zero value to us, as nearby rivers with as good or better paddling will almost certainly be flowing and many will choose those over the Montreal.

Finally, while we are happy with 2 releases, more would of course be better. It seems to me the Gile usually has plenty of water to provide these. Further, the recreational value of motorboating on the Gile Flowage itself seems to be overvalued in this assessment, due to the fact that there are so many other lakes in the region to enjoy that will always have plenty of water all Summer long. That is not the case for whitewater, at all, particularly in the Summer and Fall. May I also suggest "water-dependent" recreational releases beyond the 2 proposed. That is: if the Gile Flowage has plenty of water come Fall, more schedule recreational releases can be added that particular year.

Thanks so much for allowing us to provide our input.

Gary Grenda

Document Content(s)

Ryan Whipple, Reed City, MI.
Hello I'm writing to request recreational dam releases for the Montreal canyon below Saxson Falls and west branch Montreal river. As a resident of the lower peninsula and white water enthusiast I have always wanted to paddle the Montreal however natural flow in the spring is normally short lived, and I don't have as much time in the spring . I would like suggest a summer or fall release schedule . preferably not on a Holliday weekend due to family time . I think back to back days would make the most sense due to the long distance some of us may be traveling to get there . Another point that I would make is that the release date should be coordinated with other near by paddling destinations such as Wausau .

Thank You for your consideration ,
Ryan Whipple

Erik Sprenne, Highland, IN.
Comments re: new license application for Gile Flowage â€“ P-15055

As a whitewater paddler for almost 40 years, a paddling advocate who has participated in many other licensing projects in the upper Midwest (Pine, Peshtigo, Menominee, Paint), and as a vacation property owner within 20 miles of the Gile Flowage and within 5 miles of the Montreal River, I strongly support a watershed-based licensing process for Gile Flowage together with the entire river corridor and both the Saxon (P-2610) and Superior Falls (P-2587) projects â€“ since the flowage and the two generating plants must operate in concert.

Both the West Branch Montreal River below Gile Flowage and the Montreal River downstream of the Saxon facility offer unique resources to midwestern whitewater paddlers. The West Branch Montreal River offers difficult rapids that are exciting for experienced paddlers, and indeed â€“ the West Branch Montreal River was the site of elite level downriver racing competitions decades ago. The Montreal River Canyon offers class II-III whitewater â€“ which is unique in the area from the standpoint of being more accessible to a wider range of whitewater skill levels.

One of the major issues in paddling both sections of the rivers is knowing when the rivers have enough water to paddle, and knowing how much water is flowing in the rivers. On the West Branch Montreal, local paddlers have developed rough guidelines by measuring water levels on the concrete abutment of the Route 2 bridge crossing the river. For the Montreal Canyon, flow levels have been made available via telephone recordings or conversations with the dam keeper for the Superior Falls project. Given the unique character of both river sections, and modern technologies, some method of online access to water levels should be made by Northern States Power/Excel â€“ either installation of USGS gages immediately below both Gile Flowage and the Saxon Power Plant, or via NSP/Excel company websites.

I also support recreational releases as part of the licensing requirement for the Gile Flowage Dam in the summer/fall months when natural flows are not sufficient for paddling both river sections. As mentioned by other commentors, such releases should be planned so as to not occur on the same weekends as for other upper Midwest dam-controlled recreational releases.

In conjunction with such releases, as well as for springtime paddling on natural flows, access to both river sections needs to be improved. As pointed out in the Friend of Gile Flowage submission, there is poor access immediately below Gile Flowage, and the put-in access at the Saxon Falls powerhouse is difficult, as paddlers must walk around a fence and locked gate before descending the long stairway.

Please use a watershed-based approach for licensing Gile in conjunction with the Saxon and Superior Falls projects, including the development and implementation of a recreation plan for all NSP owned lands surrounding Gile Flowage.

Regards,
Erik Sprenne
Highland IN and Ironwood MI

Document Content(s)

NSPW Responses to Stakeholder Comments on DLA

Summary of Gile Flowage Storage Reservoir Project DLA Comments and NSPW Responses

#	Entity, Date	Comment	NSPW Response
1	RAW 06/01/2023	***Comments on draft Application for License*** *The RAW has reviewed the referenced draft Application for License (AL) for the referenced Gile Storage Reservoir (GSR) and herewith provides comments on it. It is very beneficial that the abundant environmental information collected during the study phase of licensing will serve to update the condition of environmental resources present in the project area of the West Fork of the Montreal River and will help the Wisconsin DNR and Michigan DNR, as well as NSPW, manage aquatic and terrestrial resources in the project area. When the final AL is completed and the FERC notices it READY FOR ENVIRONMENTAL ANALYSIS, the RAW will submit to the Commission recommended terms and conditions (T&C) for inclusion in the license along with rationale to support them. Proposed protection, mitigation, and enhancement measures are discussed below for your consideration when preparing the final AL. However, they are not necessarily all-inclusive.*	The West Fork of the Montreal River and all lands and waters within the vicinity of the Gile Flowage Storage Project are located entirely within the State of Wisconsin. Therefore, consultation with Michigan resource agencies is not applicable to the Gile Project. The Project dam is located on the West Fork approximately 8 miles upstream of its confluence with the Montreal River (which is the border between Wisconsin and Michigan). Therefore, the WDNR serves as the state fish and wildlife agency, state water resource agency, and is the certifying agency under Section 401 of the Federal Clean Water Act for all lands and waters within the Project vicinity.
2	RAW 06/01/2023	*The RAW concurs with NSPW's proposed environmental mitigation and enhancement measures stated in Exbibit E, although we expect that they will be refined as they are evaluated by Wisconsin DNR, Michigan DNR, and other stakeholders. We believe it is worthy to list here NSPW's proposed environmental commitments developed thus far in licensing:* *-develop an aquatic and terrestrial invasive species monitoring plan, and conduct biannual invasive surveys* *-develop a rapid response invasive species monitoring plan to monitor for the introduction of new aquatic and terrestrial invasive species, and limit their dispersal* *-conduct shoreline erosion surveys every 5 years, and take remedial action if necessary* *-implement the Cave Bat BITP/A and Wood Turtle BITP/A*	Comment noted.
3	RAW 6/1/2023	*Recreational measures* *-provide flow release and storage reservoir elevation information via the internet* *-maintain and improve signage at the canoe portage* *-develop a whitewater recreation plan for the GSR and for the Saxon Falls (SAF) hydro project that details the flow discharge regime for white water boating*	The Gile Project is being licensed under a separate proceeding from the Saxon Falls and Superior Falls Projects. RAW is combining proposed recreational measures among the Projects. The proposed recreational measures for the Gile Project are located in Section 3.8.3 of the FLA.

#	Entity, Date	Comment	NSPW Response
		-provide two water releases downstream annually for whitewater boating: one in June, and one in September *-provide additional water downstream from the GSR for an increased aesthetic flow in the SAF Project bypass reach* *-continue aesthetic flow releases in the Superior Falls (SUF) Project bypass reach*	
4	RAW 6/1/2023	*Project Operations* *-continue to provide discharge from the GSR such that the SAF and SUF projects are operated in a run-of-river mode* *-for daily reservoir operation, implement a gradual (ramping) rate for changing water levels to balance the needs of downstream generation with the needs of recreation and protection of the aquatic community in the GSR* *-develop an operations compliance plan for the GSR* *We recommend that all plans prepared by NSPW be developed in consultation with the Wisconsin DNR, Michigan DNR, Michigan Department of Environment, Great Lakes, and Energy (EGLE) and other concerned stakeholders.*	The West Fork of the Montreal River and all lands and waters within vicinity of the Gile Flowage Storage Project are located entirely within the State of Wisconsin. Therefore, consultation with the Michigan resource agencies is not applicable to the Gile Project. The Project dam is located on the West Fork approximately 8 miles upstream of its confluence with the Montreal River (which is the border between Wisconsin and Michigan). The WDNR serves as the state fish and wildlife agency, state water resource agency, and is the certifying agency under Section 401 of the Federal Clean Water Act for all lands and waters within the Project vicinity. Because the releases from the Gile Project supplement natural changes in flows of the West Branch downstream of the Gile Dam and natural flow changes of the Main Branch of the Montreal River to maintain a constant flow for hydropower generation at the downstream Saxon Falls and Superior Falls Hydroelectric Projects, required changes in release at Gile Dam need to match to the natural changes downstream of Gile Dam and in the Main Branch of the Montreal River to operate as efficiently as possible at the downstream Saxon Falls and Superior Falls Hydroelectric Projects. Therefore, there is no incentive for NSPW to make rapid changes of releases from the Gile Dam instead of regular small changes that match the natural changes in the river system downstream of the Gile Dam and in the Main Branch of the Montreal River. For example, when flows naturally decrease in the unregulated Main Branch of the Montreal River, if NSPW waits too long to make the change to supplement the flows downstream it will result in decreased generation at the downstream hydroelectric projects. This is because the downstream reservoirs are very small and cannot store enough water to compensate for the reducing upstream flows and generating potential is lost without making an adjustment to increase releases in short time from the Gile Dam. In addition, if flows naturally increase in the Main Branch of the Montreal River and NSPW waits too long to make a change at Gile Dam to reduce the flow in short time, the excess water flowing into the downstream Projects will not be able to be used for electrical generation and will either have to pass over the spillway or NSPW will have to open a gate to pass the excess water downstream. Therefore, there is no incentive for NSPW to make rapid changes at the Gile Dam that do not match the natural cycle of the Main Branch of the Montreal River, which provides approximately 80% of the water used for generation downstream. No gradual ramping restrictions are required because NSPW is incented to follow the natural hydrograph with releases at the Gile Dam to its greatest potential possible. If rapid release changes are made, it is because the natural hydrologic conditions are changing rapidly. The USFWS is the federal fish and wildlife agency with jurisdiction in the Project vicinity. Therefore, NSPW proposed to consult with USFWS and WDNR in the FLA regarding the development of the proposed operations management plan. Since the State of Michigan does not have jurisdiction over wildlife or water quality within the West Fork, NSPW has not proposed to consult with MDNR or EGLE regarding the plan.

#	Entity, Date	Comment	NSPW Response
5	RAW 6/1/2023	*Reservoir/flow routing (RFR) model. The RAW supports XE's efforts to finish an RFR model in 2023 for the GSR. The operation of the GSR is of course an integral part of the operation of the SAF and SUF hydro projects. We recommend that the water budget modeled for the GSR incorporate a base flow of at least a two CFS release in the bypass channels of SAF and SUF hydro projects at all times and year-round. Two CFS seems reasonable to the RAW based on our experience setting base flows in bypass channels at other hydro projects. Recognize that this is not a recommendation for a study; rather, it is a stated resource need to provide year-round watering in the side channels to sustain any aquatic community that develops there.*	The Gile Reservoir flow/routing model was completed in 2023 and has been included in **Appendix E-28**. Saxon and Superior Falls are both run of river projects and are being relicensed in a separate proceeding. Concerns regarding the operations of those facilities are outside the scope of the Gile Project licensing. However, it should be noted, the spillways at both Saxon Falls and Superior Falls experience leakage at all times, in addition to the water discharged to comply with any minimum flow requirements.
6	RAW 6/1/2023	*The RAW recommends that NSPW implement other measures for protection, mitigation, and enhancement at the GSR as requirements in the license.* *1. Maintenance drawdowns. To protect small fish, mussels, and other aquatic life from becoming stranded in the riverbed and exposed on flowage-dewatered shoreline, NSPW should prepare, in consultation with the Wisconsin DNR, Michigan DNR, and FWS, a drawdown management plan to be implemented for GSR when there is a need for routine dam maintenance or if there is a need for an emergency drawdown*	Other than routine operations, which allow for daily reservoir drawdowns of typically 0.1 feet per day, but no more than 0.2 feet per day[1], there are no regularly scheduled drawdowns for maintenance purposes. Since routine drawdowns for maintenance are not regularly conducted, the details (purpose, timing, depth of drawdown, length of drawdown, refill conditions, etc.) of a future drawdown, if necessary, cannot be determined at this time. Each drawdown is unique and therefore must be developed on a case-by-case basis. Additionally, any drawdown extending three weeks or longer will require a temporary license amendment to be submitted for FERC approval. Therefore, NSPW proposes to consult with the WDNR and USFWS when developing any temporary license amendment application prior to submittal to FERC. Resource agency concerns, if any, would be addressed in the final application for a temporary license amendment. If a drawdown of less than three weeks in duration is necessary during the subsequent license term, it will be considered a planned deviation, and NSPW must follow the guidelines identified in Section 3.5.3 of the FLA. As part of the planned deviation process, NSPW must first consult with the resource agencies and the Bad River Tribe seeking their concurrence. This process will afford the resource agencies and the Bad River Tribe an opportunity to express any concerns they may have.
7	RAW 6/1/2023	*2. Operational compliance. Among other elements of an operational compliance plan, NSPW should install a new staff gauge at the dam to clearly show the maximum and minimum water levels of the GSR allowed in the license. NSPW should keep the gauge clean at all times, as the numbers get obscured easily by algae and other debris.*	There is an existing staff gage at the facility. The condition of all gages and other monitoring equipment will be reviewed when the Operations Management Plan, proposed in Section 3.5.3 of the FLA, is developed.
8	RAW 6/1/2023	*3. Water quality standards. To protect fish and other aquatic life from low dissolved oxygen levels and high-water temperatures, NSPW should develop a plan, in consultation with the Wisconsin DNR and Michigan EGLE, to monitor dissolved oxygen, temperature, and other parameters as deemed appropriate by the resource agencies to ensure that the project is operated within each state's water quality standards.*	The Project is entirely located within the State of Wisconsin and is therefore subject only to Wisconsin water quality standards. As noted in the Water Quality Monitoring Study Report, all water sampling results indicated that the Project meets Wisconsin's water quality standards. Since no substantive changes to operations are being proposed, there is no need to complete ongoing water quality monitoring. Therefore, periodic water quality monitoring is not being proposed as part of the FLA.

[1] Except for scheduled whitewater releases and emergencies beyond Applicant's control, which includes preemptive drawdowns for expected large inflow events due to precipitation or snow melt to reduce flooding and increased reservoir elevations at the downstream hydroelectric projects.

#	Entity, Date	Comment	NSPW Response
9	RAW 6/1/2023	*4. Bald eagle protection. Determine annually if any bald eagle nests occur on project land, and if so, implement the USFWS bald eagle management guidelines to protect nests and bald eagles from any land-disturbing activity.* *Further, implement a listed species protection plan if, over the period of the license, any federal and state listed species inhabit the land and water within the project boundary*	NSPW has not identified any specific activities in the FLA that would involve vegetation management or construction within 660 feet of any active eagle nest which could result in adverse impacts to the species.[2] In Section 3.7.3 of the FLA, NSPW has proposed mitigation measures to avoid impacts to state and federal threatened and endangered species. In Section 6.0 of the FLA, NSPW has proposed measures to mitigate the effects of yet to be fully defined maintenance work to avoid impacts to state and federal threatened and endangered species, including the protected bald eagle.
10	RAW 6/1/2023	*NSPW should prepare a Recreation Plan for the project and address the recommendations submitted by the resources agencies and concerned stakeholders as input to the plan. The plan should be implemented over the period of the new license and include these general conditions:* *-implement the recreational improvement measures proposed by NSPW in Exhibit E, and make the commitment to implement those provided thus far in relicensing to NSPW by the resource agencies and concerned stakeholders (i.e., Friends of the Gile Flowage, Michigan Hydro Relicensing Coalition, and American Whitewater)* *-commit to maintain all recreational sites (i.e., boat launches, fishing piers, trails, and canoe portage) in good condition* *-prepare a brochure or update the existing one showing a map of the project and the location of all recreational facilities* *-install new recreational facilities over the period of the license on an as-needed basis*	In Section 3.8.3 of the FLA, NSPW has proposed improvements to the canoe portage, the only recreation site under its control, as well as routine maintenance throughout the term of the license. NSPW has further proposed to develop a Whitewater Recreation Plan, to add downstream river flow and reservoir elevation information to its website, and to develop an Island Management Plan. These proposed measures will ensure adequate public recreational access and opportunities within the Project boundary. Therefore, no separate recreation plan has been proposed.
1	MHRC 6/13/2023	*The Michigan Hydro Relicensing Coalition (Coalition) is a coalition of five statewide, nonprofit conservation groups with an interest in the protection and enhancement of aquatic resources: Michigan United Conservation Clubs, Michigan Council of Trout Unlimited, Great Lakes Council of Fly Fishers International, Anglers of the Au Sable, and the Michigan Steelhead and Salmon Fishermen's Association. The Coalition is an Intervenor in the licensing proceedings for the Gile Flowage Project (P-15055) given the nexus between it and the downstream Saxon Falls – Superior Falls Hydropower Projects (P-2610-011; P-2587-065, respectively) on the Montreal River, a Michigan interstate river.*	Comment noted. NSPW notes that the Saxon Falls and Superior Falls Projects are being licensed under a separate proceeding.

[2] Since routine maintenance of recreation sites has been occurring, eagles with existing nests located within a 660-foot buffer of the recreation sites are accustomed to the activities and will not be adversely affected. Likewise, new nests established within a 660-foot buffer of the existing recreation sites are not likely to be adversely affected, because eagles would be establishing a new nest despite the presence of the recreation site and its routine maintenance activities.

#	Entity, Date	Comment	NSPW Response
2	MHRC 6/13/2023	*The Coalition concurs with the River Alliance of Wisconsin's (RAW) assessment of Northern States Power Wisconsin's (NSPW) proposed environmental mitigation and enhancement measures stated in Draft License Application (DLA) Exhibit E. The Coalition anticipates that these measures may be refined as they are evaluated by the resource agencies and other stakeholders*	Comment noted.
3	MHRC 6/13/2023	*The Coalition also concurs with the RAW recommendation that the Commission incorporate the other specific measures for protection, mitigation, and enhancement at the Gile Flowage Project as requirements. In the final license issued to NSPW: maintenance drawdowns, operational compliance, water quality standards, and bald eagle protection.*	Comment noted. NSPW has responded to RAW's comments.
4	MHRC 6/13/2023	*The Coalition also supports the RAW and American Whitewater (AWW) recommendations for the DLA recreation measures.*	Comment noted. NSPW has responded to RAW's and AW's comments.
5	MHRC 6/13/2023	*The Coalition recommends that NSPW complete the minimum flow habitat evaluation study and the reservoir/flow routing (RFR) model, and incorporate the results in its final license application*	Both studies were completed in 2023. The reservoir routing model has been included in **Appendix E-29** of the FLA. Information regarding the results of the 2023 minimum flow study have been included in Section 3.5.1.4.3 of the FLA.
6	MRHC 6/13/2023	*The Coalition also recommends that all plans prepared by NSPW should be developed in consultation with the Wisconsin Department of Natural Resources, Michigan Department of Natural Resources, Michigan Department of Environment, Great Lakes*	The West Fork of the Montreal River and all lands and waters within vicinity of the Gile Flowage Storage Project are located entirely within the State of Wisconsin. Therefore, consultation with the Michigan resource agencies is not applicable to the Gile Project. The Project dam is located on the West Fork approximately 8 miles upstream of its confluence with the Montreal River (which is the border between Wisconsin and Michigan). The WDNR serves as the state fish and wildlife agency, state water resource agency, and is the certifying agency under Section 401 of the federal Clean Water Act for all lands and waters within the Project vicinity. The USFWS is the federal fish and wildlife agency with jurisdiction in the Project vicinity. Since the State of Michigan does not have jurisdiction over wildlife or water quality within the West Fork, NSPW has not proposed to consult with MDNR or EGLE regarding proposed management plans. It should also be noted the Gile Project only provides approximately 21% of the water supplied to the downstream Saxon Falls and Superior Falls Hydroelectric Projects.
7	MHRC 6/13/2023	*The Coalition has previously raised the issue of analyzing the effects of operation of the Gile Flowage – Saxon Falls and Superior Falls hydropower system as interrelated during the forthcoming environmental (NEPA) analysis by the Commission. Given the operational connection that during times of low flow water is released from the Gile Flowage to supplement natural river flows for power generation at the NSPW downstream hydroelectric projects, all three of these projects need to be viewed as a whole in terms of the environmental analysis of proposed future operations (including the cumulative effects analysis). The Coalition again urges the Commission to do a joint NEPA analysis as also recommended by AWW.*	Saxon and Superior Falls are run-of-river projects being licensed under a separate proceeding from the Gile Flowage. All water that is ultimately released from the Gile Flowage will pass through the two downstream projects. FERC indicated during the Initial Study Report meeting that they were not sure at that time whether one environmental analysis covering all three projects would be developed or separate environmental documents would be prepared for each project.

#	Entity, Date	Comment	NSPW Response
1	FOG 6/14/2023	*Need for an Integrated Gile Flowage Reservoir-Saxon/Superior Falls Comprehensive Plan* *FOG stresses that the Gile Flowage Reservoir is an integral part of the Licensee's hydro system that includes the Saxon and Superior Falls projects. FOG has maintained the position that three projects are interconnected and need to be viewed as a whole when analyzing project-effects on the Gile Flowage Reservoir. The Reservoir is only one element of an integrated watershed system that requires balancing Reservoir needs with those downstream on West Branch of the Montreal River.* *FOG recommends that NSPW develop an Integrated Gile Flowage Reservoir-Saxon/Superior Falls Comprehensive Plan, using a watershed resource-based approach, to manage shorelines and the multiple resources and uses of the project in a manner that is consistent with license requirements and project purposes, and addresses the needs of the public. This plan would address many of the issues FOG raises in this letter. Goals for this plan should include:* *•implementing management practices that will perpetuate the natural character of the Flowage's shoreline* *•preserving its aesthetic qualities* *•protecting plant and animal communities* *•preserving quality outdoor recreational opportunities including fishing, hunting, camping, nature observation, trapping, boating, and canoeing* *•managing the Reservoir through a watershed management approach* *•engaging local and non-local stakeholders and tribes*	Saxon and Superior Falls are run-of-river projects being licensed under a separate proceeding from the Gile Flowage. All water that is ultimately released from the Gile Flowage will pass through the two downstream projects. FERC indicated during the Initial Study Report meeting that they were unsure at that time whether one environmental analysis covering all three projects would be developed or separate environmental documents would be prepared for each project.
2	FOG 6/14/2023	*Project Boundary* *The AL section 2.2.2.1 offers Reservoir operating parameters with water level fluctuations continuing between the proposed project boundary at the 1490' NGVD elevation, called "full pond", to an allowable drawdown to the 1475' NGVD elevation. This is a 15-foot variation. Drawdowns increase impacts on shoreland habitat and aquatic species by exposing the littoral area to dewatering. Drawdowns can impede boater access at each of the Reservoir's boat landings as evidenced in the Recreation Study boater interviews.*	The proposed operation, with an allowable 15-foot drawdown, has been in effect since the construction of the Gile Dam. During that time, terrestrial, botanical, and littoral resources in the Project vicinity have adapted to the seasonal reservoir fluctuations. In addition, NSPW's proposed operating regime, as outlined in Section 9 of Exhibit A, states the following: *Over releases that do not serve a Project purpose can have an adverse impact upon recreational and environmental resources at the Gile Flowage. Therefore, NSPW avoids "over releasing" through closely regulating discharge from the Gile Dam.* As noted in the Recreation Report, the Gile Park boat landing and Town of Pence boat landing serve as alternative access points during periods of low water levels.
3	FOG 6/14/2023	*On the other hand, NSPW is selling its Reservoir riparian properties to adjacent private landowners that includes a permanent easement allowing NSPW to flood these properties to the 1500' NGVD elevation. Such flooding would be 10 feet above the proposed 1490' NGVD project boundary elevation. At this elevation, Reservoir water would overtop the Gile Dam, and flood US Hwy. 51 at the Reservoir's eastern*	NSPW has proposed to maintain the reservoir between elevations 1475 and 1490 feet NGVD. This 15 foot range has been used since the dam was originally constructed. Under the proposed operation, which retains the 15 foot range, the reservoir elevation drawdown would typically be restricted to approximately 0.1 feet per day, but no more than 0.2 feet per day, to balance the needs of downstream generation with the needs of recreation and aquatic environment.

#	Entity, Date	Comment	NSPW Response
		edge as well as private and public property around the Reservoir. Combining the allowable drawdown to 1475' NGVD to the 1500' NGVD flooding easement elevation means there is the potential for a 25-foot Reservoir water level variation. We are concerned that none of the AL's environmental studies have factored impacts of this degree of water level fluctuation. *FOG recommends that the Reservoir project boundary be established at the 1500' NGVD elevation which would be consistent with NSPW flooding easement and NSPW project-related management. The permanent 1500' NGVD flooding easement is a project-operation effect that impacts the entire Reservoir, and the protection of the riparian area. Therefore, we feel that the Project Boundary should be the same as the Area of Potential Effect that will be impacted by this flooding easement.*	NSPW provided information regarding its flowage rights in Appendix M of the Proposed Study Plan. This information indicates that NSPW owns flowage rights to elevations 1495 or 1500 feet NGVD in most areas. NSPW has the property rights necessary for the operation of the project. Simply because NSPW's flood rights exceed the reservoir's upper operating elevation (1490.0' NGVD) does not mean such rights should be included in the Project boundary and thus under Commission's jurisdiction. Indeed, the area above elevation 1490.0' NGVD is not needed for project purposes. Furthermore, just because NSPW owns flowage rights, does not mean it intends to flow those lands on a periodic basis. FERC project boundaries are not established based on the extent of existing flowage rights, which may extend far beyond the reach of any operational impact, but on those lands necessary for Project operations. FOG's blanket statement that the Project boundary should be set at 1500 feet NGVD is not feasible given the earthen portions of the dam have a maximum elevation of 1495 feet NGVD. The 1500-foot elevation boundary request would result in the inclusion of several private residences and other structures and privately owned lands (likely owned by members of FOG) adjacent to the reservoir within the boundary and therefore subject to FERC jurisdiction. In some areas the 1500-foot NGVD elevation line is over 1/8 mile from the reservoir's shoreline. If the boundary were set at that elevation (i.e., 1500 feet NGVD), NSPW would likely have to obtain additional flowage rights that it does not currently own, for lands that are not impacted by Project operations. NSPW has proposed 1490 feet NGVD as the project boundary because that is the maximum reservoir operating elevation and that elevation contains all the lands necessary for the operation of the Project. FOG has offered no valid rationale, based on Project purposes, for demonstrating the need for a project boundary elevation of 1500 feet NGVD.
4	FOG 6/14/2023	*FOG also recommends that NSPW develop a Drawdown-Flooding Management Plan for project-related drawdowns are needed for routine dam maintenance or an emergency drawdown, and in cases when flooding above the project boundary becomes necessary to:* • *notify the public in a timely and effective manner* • *mitigate impacts on aquatic habitats* • *mitigate impacts on public use and safety*	The Gile Dam has an existing Emergency Action Plan. This plan provides updated information on the coordination with stakeholders during emergency situations, including flooding. Please see the response to RAW Comment #6 regarding drawdowns.
5	FOG 6/14/2023	*NSPW Owned Reservoir Uplands Connected to Riparian Lands* *The AL states, "The reservoir features a primarily undeveloped wooded shoreline with numerous rock outcrops and bedrock islands that greatly enhances the aesthetics."* *There are approximately 900 acres of land around the Reservoir where NSPW owns large tracts of both the riparian and adjacent uplands. These lands are currently outside the proposed project boundary, but are integral to maintaining water quality, habitat, public access, and the unique Reservoir aesthetics as cited in the AL. Sales of NSPW non-project lands, adjacent to the Reservoir, will lead to greater development*	As noted in Section 15 of Exhibit A of the FLA, the purpose of the Project is to provide headwater storage for seasonally uniform hydroelectric generation at NSPW's downstream Saxon Falls (FERC Project No. 2610) and Superior Falls (FERC Project No. 2587) hydroelectric projects. As noted in 18 CFR § 4.41, the Project boundary must only enclose those lands necessary for the operation and maintenance of the Project and for other Project purposes, such as recreation, shoreline control, or protection of environmental resources. Existing residential, commercial, or other structures may be included within the boundary only to the extent that underlying lands are needed for project purposes. This section also states that the boundary must be located no more than 200 feet (horizontal measurement) from the exterior margin of the reservoir, except where additional lands are necessary for project purposes.

#	Entity, Date	Comment	NSPW Response
		pressure and decrease of public access. Disposal of these large land tracts and riparian properties by NSPW could jeopardize the current conditions on which the License Application is based. *FOG recommends that NSPW either extend the Reservoir project boundary to retain ownership of all riparian and adjacent uplands NSPW lands adjacent to the Reservoir; or donate these properties to a land trust, or other public entity, to retain their environmental qualities and keep them publicly accessible.*	NSPW proposes that that Project boundary include all lands with Project structures, NSPW-owned and maintained recreation sites, and all lands up to the maximum reservoir elevation of 1490 feet NGVD. Maintaining large tracts of undeveloped land within the Project boundary to protect the land from future development is not a project purpose and does not meet the requirements set forth in 18 CFR § 4.41. Additionally, it is beyond FERC's jurisdiction to mandate the sale or transfer of lands that are not included within the Project boundary to a public entity in order that they remain open to the public in perpetuity. While NSPW is open to future discussions regarding the sale of adjacent uplands not included within the Project boundary, it is beyond the scope of this proceeding and inappropriate to include as a license condition.
6	FOG 6/14/2023	*Water Release Plan* *FOG recognizes the need for project-related water releases from the Gile Flowage to support opportunities for white water kayak recreation on the West Branch of the Montreal River. We support the two planned water releases from the Gile Flowage proposed in the AL.* *FOG recommends that NSPW develop a Water Release Plan in consultation with stakeholders including FOG that:* *•balances the opportunities for whitewater flows with recreation opportunities and impacts to the Reservoir* *•provides a minimum of a 72-hour notice of any planned Reservoir water releases to allow notification of Reservoir property owners and users* *•provides public information on water releases via Xcel's Gile Flowage Hydro website and through local media* *•consults annually with the National Park Service, American Whitewater, FOG, and other stakeholders*	NSPW appreciates FOG's support of its proposal to develop a Whitewater Recreation Plan and conduct two whitewater releases annually. In Section 3.8.3 of the FLA, NSPW has proposed to develop a Whitewater Flow Recreation Plan in consultation with AW and NPS. The plan will include specific information such as the exact weekend each year the flows should be released and the time of day each flow release should begin. A similar plan was specified in the final license application for the Saxon Falls Project. NSPW proposes to develop the Gile Flowage Whitewater Recreation Plan in conjunction with the Saxon Falls Whitewater Recreation Plan. Under the proposed reservoir elevation restrictions, the proposed whitewater flow releases in June and September are not expected to result in significant adverse effects to water-based recreation. The June release would typically coincide with the time of year when inflows to the reservoir are higher. The September release is scheduled to occur after the primary open water recreation season, which generally ends on the first weekend in September (Labor Day Weekend). Therefore, NSPW has not proposed to consult with FOG on the development of the plan. There are no regularly scheduled maintenance drawdowns at the Project. Daily drawdowns are typically limited to 0.1 feet per day, not to exceed 0.2 feet per day, and generally do not provide sufficient flow to support whitewater boating downstream of the Project. NSPW has proposed to ramp flows up and down over a one-hour period prior to and after the three-hour release, respectively, to reduce aquatic impacts. Once the plan has been developed, the annual releases will be established and annual meetings with stakeholders will not be necessary.
7	FOG 6/14/2023	*We disagree with the NSPW assumption in section 3.8.1.3.5 that the states the number of Reservoir recreational days is not expected to increase by 2040 based on "no projected of population change in Iron County, WI and Gogebic County, MI." This assumption fails to recognize the significant increase in the number of non-local residents/tourist visitors coming to Iron County WI and neighboring areas.* *According to the WI Department of Tourism (Travel Wisconsin, 2022), Iron County experienced a 118° increase in tourism expenditures from 2019 to 2022. This is evidence that more visitors are discovering this*	Please note that the population study was conducted for all of Iron County during the period of COVID restrictions. Many outdoor recreation areas received a marked increase in use as a direct result of the implications from the COVID restrictions. Therefore, there is not enough information to support a claim this trend of increased recreational use, or even the short-term increase, will continue into the future. Stakeholders have the opportunity to request additional recreational improvements throughout the term of the license if warranted by increased use.

#	Entity, Date	Comment	NSPW Response
		area and using the Reservoir which is a primary northern Iron County attraction. This usage will only increase once the Reservoir is federally licensed, and its notoriety increases from this designation.	
8	FOG 6/14/2023	*Support for Reservoir recreation planning or enhancement is lacking in the AL. "Estimated Cost for Proposed Environmental Measures" (Table A-1), includes a $15,000 budget for a Whitewater Recreation Plan which will affect recreation downstream from the project boundary, but there is no plan listed or budgeted for recreation planning or enhancement within the Reservoir's project boundary.*	In Section 3.8.3 of the FLA, NSPW has proposed improvements to the canoe portage, the only recreation site under its control. NSPW further proposes to develop a Whitewater Recreation Plan and Island Management Plan. These measures are sufficient to provide public recreational access within the Project boundary.
9	FOG 6/14/2023	*FOG strongly supports NSPW develop a Reservoir Recreation Plan, in partnership with stakeholders, that addresses:* *•recreational use of Reservoir islands and shorelands within the project boundary* *•need for accessible public fishing opportunities including handicap accessible fishing* *•developing a schedule for monitoring and maintaining project recreational facilities, including island maintenance* *•implementing stewardship projects and partnerships that support Reservoir Recreation Plan goals.*	In Section 3.8.3 of the FLA, NSPW has proposed improvements to the canoe portage, the only recreation site under its control. NSPW further proposes to develop a Whitewater Recreation Plan and Island Management Plan. These measures are sufficient to provide public recreational access within the Project boundary. No reservoir recreation plan is necessary.
10	FOG 6/14/2023	*Island Recreation Plan and Enhancement Measures* *Exhibit G Project Boundary Map identifies many of the islands within the Reservoir as Fee Simple and included in the project boundary. These islands are a result of the Reservoir being created. They represent a project effort and measures must be implemented for their management.* *FOG supports inclusion of these NSPW owned islands within the project boundary, however we feel that recreational use of the 20+ NSPW islands is not adequately addressed in the AL.* *In the AL, the Licensee indicates that they will manage the Project in the same manner as when the dam was created in the late 1940's. NSPW's stated position has remained that camping is not permitted on NSPW islands or its riparian lands. However, this policy has never been enforced. Island camping and day use is increasing, bringing more trash and sanitary issues. Active management of the Gile Flowage islands is necessary to maintain a safe, sanitary experience for Flowage users as well as maintain island habitats.* *The Recreation Study's "Evaluation of Existing Recreation on Undeveloped Islands" section 3.8.1.3.4 acknowledges that trash was found on several islands (no number given). Although the study did not specify*	NSPW has proposed to develop an Island Management Plan in consultation with FOG and NPS in Section 3.8.3 of the FLA. The plan would be developed within one year of license issuance and would formalize NSPW's existing land management policy and address issues regarding public access, signage, maintenance, trash removal, and enforcement of regulations on islands owned by NSPW. No camping sites or pit toilets would be allowed under the plan. .

#	Entity, Date	Comment	NSPW Response
		the amount or type of trash, a low level of garbage may be due to the annual FOG clean ups as well as on-going boat landing and island cleaning done by FOG volunteers throughout the year. The amount and type of garbage collected by FOG volunteers in annual island clean ups has been well documented in prior project correspondence to FERC. The AL also fails to discuss the problem of human sewage NSPW islands being used for camping. Measures need to be taken to mitigate this issue.	
11	FOG 6/14/2023	*FOG recommends that NSPW develop an Island Recreation Plan and Enhancement Measures to:* *•establish policies and procedures for public-use camping on NSPW islands and shorelands* *•implement management strategies for maintaining sanitary and safe camping and recreational use of NSPW's islands and shorelands* *•conduct regularly scheduled island clean-ups to remove garbage from these islands as well as monitor and mitigate environmental damage caused by recreational use* *•conduct public education on the need for "back country" recreational use practices on NSPW islands and shorelines through signage at each boat landing and public information outreach about recreational use of the Reservoir*	NSPW has proposed to develop an Island Management Plan, in consultation with FOG and NPS, in Section 3.8.3 of the FLA. The plan would be developed within one year of license issuance and would formalize NSPW's existing land management policy and address issues regarding public access, signage, maintenance, trash removal, and enforcement of regulations on islands owned by NSPW. No camping sites or pit toilets would be allowed under the plan.
12	FOG 6/14/2023	*Enhance Tailwater Recreation: Kayaking/Canoeing and Fishing* *The tailwater area is included in the current proposed project boundary. The tailwaters area is accessed via a path across and down the steep grassy north slope of the Gile Dam berm to the river's east side. The area is currently undeveloped and unsigned. There is no designated or ADA accessible parking to access the tailwaters areas. Users park either on city streets or the eastern edge of the Gile Dam berm.* *Fishers interviewed in the Recreation Study supported public access to the tailwaters area immediately below the Gile Dam. The tailwaters area also served as a put-in point for the project's Whitewater Study, although kayakers accessing the West Branch of the Montreal River typically put in further downstream below Hwy. 77 to avoid Gile Falls.*	This comment is the same as comments 11 and 12 from the NPS. Please see NSPW's responses to NPS Comments #11 and #12, below.
13	FOG 6/14/2023	*Tailwaters Kayak/Canoe Recreation: Currently there is a "Take Out" sign on the Gile Dam. The AL calls for signage of a "Canoe Portage" directing boaters over the south side of the Gile Dam berm to the West Branch of the Montreal River on the north side. We do not know of any boaters who have ever portaged from the Reservoir to access the West Branch. This side of the Gile Dam berm is reinforced with large boulders, making portaging over them impossible unless improvements are made. We propose that a*	A canoe portage has been in place for at least 40 years and is generally required at both state-regulated dams (the Gile Dam was state regulated prior to the current licensing proceeding) and FERC hydroelectric projects. Regardless of FOG's opinion on the need for a canoe portage, NSPW will continue to maintain the canoe portage over the term of the original license. The canoe portage was assessed as part of the recreation survey. The site was rated as "needs improvement" due to the areas of erosion control and the need for improved signage. The erosion will be corrected by the

#	Entity, Date	Comment	NSPW Response
		"Canoe Portage" sign is unnecessary unless required due to the presence of the Gile Dam in which case improvements are needed to create a portage access.	end of August 2023. NSPW has proposed to review and update or replace the take-out and Part 8 signage in Section 3.8.3 of the FLA. No other improvements to the site have been proposed. NSPW utilizes safety signage similar to the safety signage at its other hydroelectric facilities in order to minimize costs and provide a consistent safety message.
14	FOG 6/14/2023	*However, we disagree with NSPW and feel that a Put In" sign is necessary should any kayakers/canoers wish to access the river. Local knowledge is that recreationalists accessing the tailwaters park their vehicles at the edge of a city street located at the east end of the Gile Dam berm. As noted in the Recreation Study Table 5-15, there are no parking places at the Gile Dam. We propose that a Put-In sign directing kayaker/canoers from this "parking area" across the Gile Dam berm to the trail access down to the river makes more sense than a Canoe Portage sign which will not be seen from this access trail. However, as noted by participants in the Whitewater Study, the tailwaters area is not adequate for whitewater boaters to use as a put-in site in its present state. It is also important that kayakers/canoers accessing the river from here should be made aware of the proximity of navigational hazards, such as Gile Falls, located a short distance downstream from the tailwaters.*	NSPW has proposed to review and update or replace the Canoe Portage Take-Out sign and Part 8 sign identifying the site. As noted in the Section 3.83 of the FLA, when boaters take-out and get to the top of the earthen embankment, it is clearly evident where to put in downstream. The Part 8 sign will be located near the road and will identify the canoe portage site for those putting in below the dam. Therefore, NSPW has not proposed to install a new put-in sign at the site. The canoe portage has been in place for at least 40 years and will not be relocated to Gile Park. If recreationists wish to take out at Gile Park, they are free to do so. Concerns about the condition of the Put-In were not expressed by the whitewater boaters during the 2022 study.
15	FOG 6/14/2023	*Tailwaters Fishing Recreation: The east side of the tailwaters area is also accessed by fishers from the informal "parking area" to a path across the Gile Dam berm, then down the berm's steep northern slope to the river's edge. The area is undeveloped and not ADA accessible. It could be prone to erosion with greater use. FOG recommends NSPW include Tailwaters Enhancements in a Reservoir Recreation Plan to consider options for enhancing public recreational access which mitigating* (sic.) *environmental impacts.* *FOG supports the following Tailwater Recreation Enhancements:* • *develop an ADA accessible off-street parking area for fishers and kayaker/canoers using the tailwaters area* • *develop a tailwaters pathway and access to insure safe public use for both fishers and kayakers while protecting the integrity of the Gile Dam berm and mitigating environmental impacts* • *erect signage indicating a kayak "Put In" directionally located to direct kayakers/canoers from the parking area to the tailwaters put-in location* • *erect signage at the tailwaters put-in including a map of the river indicating navigational hazards, such as Gile Falls, and downstream take-out locations and distances* • *develop a ADA compliant access, fishing platform, and shoreline pathway to ensure recreational opportunities for people with handicaps or disabilities*	See NSPW's response to NPS Comments #11 and #12. The tailwater access in its current condition is suitable for whitewater boaters. None of the boater surveys included in the Whitewater Recreation Study Report indicated that the tailwater area was inadequate for launching. Photographs in the report show boaters launching without effort at each of the flows studied. Parking is readily available at Gile Park, located approximately 160 feet east of the access site, and along the streets adjacent to the site. Several boaters remarked that they would be unlikely to boat the stretch of river immediately downstream of the dam due to the need to portage around the snowmobile bridge and/or Gile Falls. Rather, they would prefer to put in farther downstream. ADA facilities, including a parking space, toilets, and a pavilion, are located at the adjacent Gile Park.

#	Entity, Date	Comment	NSPW Response
16	FOG 6/14/2023	*Boat Landings: Maintenance and Mitigation* *Public use and enjoyment of the Gile Flowage Reservoir depends on access via one of four public boat landings. The two major developed landings have docks and are accessible by paved roads. These are Gile Park Landing (City of Montreal), and the County C Landing (WDNR). The two smaller landings with no docks are Town of Pence Landing (Town of Pence) and Sucker Hole Landing (Iron County) Both of these landings are accessed by Spring Camp Road.* *Reservoir water levels directly relate to project operation and the ability of the public use of these landings to access the Reservoir. Different opinions from respondents on boat launch accessibility are presented in the Recreation Study and the AL. Some respondents indicated significant difficulty using the County C Landing and docks, especially under low water conditions, and said that ramp and dock conditions were unsafe. One respondent offered that "the Town of Pence and Sucker Hole Landings are substitutes because the County C Landing is not useable at low water levels." Others countered that it was difficult to launch "at both the Gile Park and Town of Pence Landings under low water conditions." AL section 3.8.2.3 states "there are alternatives for launching a boat during the summer drawdown such as Gile Park and Town of Pence Landing, which remain accessible during low water conditions." FOG maintains that Sucker Hole Boat Landing is a low water boat launch site based on local experience.* *Despite the range of opinions on low water boat launching, the Recreation Study Table 5-13. "Summary of comments received from interviews, Gile Flowage (January, May-October 2022)", cites respondent comments about the impacts to boat launching under low water conditions at each of the Reservoir's landings.*	The canoe portage is the only recreation site owned and maintained by NSPW and the only recreation site proposed to be included as a FERC-approved recreation facility. Signage for the site is addressed in Section 3.8.3 of the FLA. NSPW has proposed to review and update or replace the Canoe Portage Take-Out sign and the Part 8 sign identifying the site. The signage will be maintained over the term of the license as part of routine maintenance. The erosion noted downstream of the dam is scheduled to be repaired by the end of August 2023. The remaining recreation sites are not under NSPW's ownership or control. While the recreation study did identify the need for improvements to regulation and interpretive signage at some of these sites, these deficiencies do not compromise the sites ability to provide public access. Ultimately, the owners are responsible for the ongoing maintenance (including signage) of the sites. See the NSPW's response to NPS comments #15 and 17 regarding water levels at the sites and #16 for the condition of the County Highway C boat landing. The tailwater access in its current condition is suitable for whitewater boaters. None of the boater surveys included in the Whitewater Recreation Study Report indicated that the tailwater area was inadequate for launching. Photographs in the report show boaters launching without effort at each of the flows studied. Parking is readily available at Gile Park, located approximately 160 feet east of the access site, and along the streets adjacent to the site. Several boaters remarked that they would be unlikely to boat the stretch of river immediately downstream of the dam due to the need to portage around the snowmobile bridge and/or Gile Falls. Rather, they would prefer to put in farther downstream.
17	FOG 6/14/2023	*Because the Town of Pence and Sucker Hole Boat Landings allow Reservoir boating access under low water conditions due to project operations, FOG recommends that the Town of Pence and Sucker Hole Boat Landings be included within the project boundary as a project facilities due to their importance in insuring public access.*	The Town of Pence and Sucker Hole landings are not owned or managed by NSPW. They were developed during the existing reservoir operating regime by local units of government to provide public access. NSPW has consulted with the owners of the sites throughout this licensing proceeding. As owners of these facilities, they are ultimately responsible for their maintenance. As noted in the recreation report, both landings were rated as in "good working condition." Although the Town of Pence landing evaluation indicated that some regulatory signage needed to be replaced, the site still serves its primary purpose of providing access to the reservoir. The recreation report also indicated that both landings provide access to the reservoir during low water conditions. These two access sites were developed by the units of local government prior to this licensing proceeding and will continue to provide public access regardless of whether the sites are located within the FERC Project boundary.

#	Entity, Date	Comment	NSPW Response
18	FOG 6/14/2023	*FOG also recommends that NSWP develop a Boat Landing Enhancement Plan to provide annual maintenance and mitigation measures at each of the Reservoir's four boat landings to ensure boater access to mitigate the impacts of project-operation water levels fluctuations.*	NSPW owns and maintains one recreational site within the Project boundary, the canoe portage. NSPW has no control over the remaining sites, which are all owned by local units of government and provide public access to the reservoir. The landings were developed with consideration for the reservoir's current operating regime. The owners are ultimately responsible for the maintenance of their sites.
19	FOG 6/14/2023	*Need for Mitigation in the Invasive Species Monitoring Plan* *As stated in section 3.6.2.1.2 the licensee acknowledges the project-related effect of the spread of aquatic and invasive species: "Maintenance of Project facilities and Project works have the potential to increase the risk of spread or transfer of aquatic invasive species." We disagree mitigation the Licensee proposes to respond to this increased risk, cited in section 3.6.3-Proposed Measures, that is to conduct more monitoring: The Applicant will develop a rapid response invasive species monitoring plan to monitor for the introduction of new invasive species and limit the dispersal of established species. and include a proposal for biennial surveys."* *We contend that monitoring for invasive species caused by project operations, however rapid, is not a mitigation strategy to limit their dispersal which the Licensee acknowledges has the potential to increase due to project operations.*	In Section 3.6.3 of the FLA, NSPW has proposed to develop a rapid response invasive species monitoring plan to monitor for the introduction of new invasive species and limit the dispersal of established species. Within one year of license issuance, the Applicant proposes to develop said plan in consultation with the WDNR prior to filing the plan with the FERC. The plan will incorporate measures for both aquatic and terrestrial invasive species and include a proposal for biennial surveys. The need for any mitigation measures will be included in the plan. NSPW has not acknowledged that its project operations have spread terrestrial and aquatic invasive species. NSPW has indicated that there is a potential to spread existing or introduce new invasive species during construction, routine recreation site maintenance, or vegetation management activities if appropriate BMPs are not implemented. The proposed invasive species plan will address invasive species BMPs to be implemented during these activities to minimize this risk.
20	FOG 6/14/2023	*As identified in the Aquatic Terrestrial Invasive Species (ATIS) Study, the spread of terrestrial invasive plants along the shoreline is an ongoing, project-related adverse effect including degradation by the spread of invasive glossy buckthorn and exotic honeysuckle. Although these terrestrial invasive plants in identified the ATIS, "The report concludes that the Project, overall, appears to support a healthy terrestrial and aquatic plant community with minimal presence of invasive plants."* *We disagree this this conclusion. Invasive species, like glossy buckthorn and exotic honeysuckle, are known to become more abundant over time, replacing native vegetation. Because the spread of terrestrial invasive species is acknowledged as a project effect, the Licensee should propose measures to reduce their abundance and control their spread.*	NSPW has not acknowledged that its Project operations have spread terrestrial invasive species, including glossy buckthorn and exotic honeysuckle, within the Project. NSPW has indicated that there is a potential to spread existing or introduce new invasive species during construction, routine recreation site maintenance, or vegetation management activities, if appropriate BMPs are not implemented. The proposed invasive species plan will address invasive species BMPs to be implemented during these types of activities.
21	FOG 6/14/2023	*The AL's "Estimated Costs of Proposed Environmental Measures" annually budgets for an Aquatic and Terrestrial Invasive Species Plan and conducting biennial surveys as noted above, however there is no plan or budget for mitigating the impacts of aquatic and/or terrestrial invasive species when they are found*	In Section 3.6.3 of the FLA, NSPW has proposed to develop a rapid response invasive species monitoring plan to monitor for the introduction of new invasive species and limit the dispersal of established species. Within one year of license issuance, NSPW proposes to develop said plan in consultation with the WDNR prior to filing the plan with the Commission. The plan will incorporate measures for both aquatic and

#	Entity, Date	Comment	NSPW Response
		project boundary, including Spiny Water Flea which has already been documented by the WDNR to be present within the project boundary. *Therefore, FOG recommends that the Licensee:* • *develop an Invasive Species Monitoring and Mitigation Plan given NSPW has acknowledged the relationship between its project operations and the spread invasive species, including the presence of invasive Spiny Water Flea in Reservoir waters* • *conduct AIS mitigation by installing aquatic invasive inspection and cleaning stations at the two most publicly used boat landings (Gile Park Boat Landing and County C Boat Landing) to reduce the transmission of SWF out of the Reservoir* • *conduct an on-going AIS public education campaign through boat landing signage and public information about the Reservoir to engage users in reducing transmission of AIS into and out of the Reservoir*	terrestrial invasive species and include a proposal for biennial surveys. The need for any mitigation measures will also be included in the plan. NSPW has not acknowledged that its Project operations have spread invasive species including spiny water fleas. NSPW has indicated that there is a potential to spread existing or introduce new invasive species during construction, routine recreation site maintenance, or vegetation management activities if appropriate BMPs are not implemented. The proposed invasive species plan will address invasive species BMPs to be implemented to minimize this risk. NSPW is not proposing to provide a boat cleaning station at any recreation site. Ongoing education regarding AIS is typically conducted by the WDNR and County Land and Water Conservation Departments. WDNR typically provides invasive species signage at boat landings to educate the public on AIS. NSPW proposes to install invasive species signage at its canoe portage if recommended and provided by WDNR.
22	FOG 6/14/2023	*Reservoir Signage/Information Plan* *Respondents survey in the Recreation Study found signage to be lacking and needed. Signage directing the public and recreationalists to the Reservoir, as well as information to guide user access and safe use, are lacking. The only signs noted in the Recreation Study are NSPW's Reservoir ownership sign on the Gile Dam berm, the proposed "Canoe Portage" sign, and interpretive signage at each Reservoir landing which FOG installed and maintains.*	Only the Canoe Portage recreation site is owned and maintained by NSPW and proposed to be included as a FERC-approved recreation site. Signage for the site is addressed in Section 3.8.3 of the FLA. NSPW has proposed to review and update or replace the Canoe Portage Take-Out sign and the Part 8 sign identifying the site. The signage will be maintained over the term of the license as routine recreation site maintenance. As a licensed facility, NSPW will be required to prepare a public safety plan for submittal to FERC. This plan will provide information on the location and types of safety signage present at the site. The remaining recreation sites are not under NSPW's ownership or control. While the recreation study did identify the need for improvements to regulation and interpretive signage of some of the non-Project recreation sites, these factors do not compromise the function of the sites to provide access to the reservoir. Ultimately, the owners of the sites are responsible for ongoing maintenance (including signage) of the sites. Therefore, NSPW has not proposed to develop a signage management plan.
23	FOG 6/14/2023	*FOG recommends that NSPW develop a Gile Flowage Reservoir Signage/Information Plan to provide:* • *directional signage to boat landings and other project facilities from adjacent state highways and city/town roads to support public access* • *signage at each boat landing instructing Reservoir users in how they can reduce the spread of invasive species to support AIS mitigation strategies* • *public outreach, including brochures, website information, and signage at each boat landing providing information about public use of the Reservoir including island camping, trash disposal, emergency information to promote safe, sanitary use of NSPW islands and Reservoir*	The Canoe Portage is the only recreation site owned and maintained by NSPW and the only site proposed to be included as a FERC-approved recreation site. Signage for the site is addressed in Section 3.8.3 of the FLA. NSPW has proposed to review and update or replace the Canoe Portage Take-Out sign and the Part 8 sign identifying the site. The signage will be maintained over the term of the license as part of routine recreation site maintenance. NSPW has already developed a public safety plan for the Project per the direction of the FERC-Chicago Regional Office. The remaining recreation sites are not under NSPW's ownership or control. While the recreation study did identify the need for improvements to regulation and interpretive signage at some of these sites, these deficiencies do not compromise the sites ability to provide public access. Ultimately, the owners are responsible for the ongoing maintenance (including signage) of the sites. Therefore, NSPW has not proposed to develop a signage management plan.

#	Entity, Date	Comment	NSPW Response
		• *website accessible information about the Reservoir including boat landing locations, recreation use policies, maps, cultural/historic, geological, and ecological points of interest, emergency contact information, project operation drawdowns or flooding, and navigational hazards.* • *interpretive signage at Gile Park Boat Landing to information about historic and cultural significance of the lands adjacent to the Reservoir and flooded to create the Reservoir, including the Montreal Company Historic District National Register of Historic Places and the Government Land Office-mapped trail known as the Flambeau Trail*	The Recreation Study report indicated that, in general, the condition of the recreation resources on the Gile Flowage were in good condition. Two exceptions were noted, the Canoe Portage and Sucker Hole landing. Both facilities received a rating of "in need of maintenance" due to a lack of directional signage. NSPW has proposed signage improvements to the canoe portage site as part of the FLA. The Sucker Hole landing is not under NSPW's ownership or control. Therefore, is it the site's owner responsibility to maintain signage. NSPW has proposed to provide information online regarding discharge from the Gile Dam and information regarding whitewater releases. NSPW will also include information on the location of boat landings that provide access to the reservoir. The Montreal Mining Company site is located primarily outside of the Project boundary and is unaffected by Project operations and is therefore not identified on any Project maps. The Flambeau Trail is believed to have crossed the reservoir. In order to protect the site, NSPW will not disclose its location as that is considered privileged information.
1	AW 6/15/2023	*Need for a Coordinated Environmental Review and Comprehensive Plan for the Waterway* *American Whitewater supports coordination of license requirements for the Saxon Falls Project (P-2610) with the Gile Flowage Storage Reservoir Project (P-15055). In past comments we have noted the importance of taking an integrated approach to the licensing of the Superior Falls Project, Saxon Falls Project, and the Gile Flowage Storage Reservoir Project;8 such an approach is necessary for purposes of a basin wide approach and an outcome that is best adapted to a comprehensive plan for improving or developing a waterway or waterways for all beneficial public uses including recreation.' Given the interrelated nature of operations of these three projects, and the fact that all are undergoing relicensing simultaneously, American Whitewater* *believes it would be in the public interest to evaluate all three projects and the proposed protection, mitigation, and enhancement measures in a single environmental review document.* *The Commission should include a clear plan for how integration and coordination between these three projects, for both recreational and environmental measures, can be best achieved. We believe that reviewing all three projects through a single environmental review document would be most efficient for all stakeholders, lead to better environmental outcomes, and be in the public interest. This approach would allow for a comprehensive understanding of individual project effects and cumulative effects and provide an efficient means of evaluating interrelated issues associated with all three projects in the basin; it would enhance the ability of the Commission to issue license decisions that are best adapted to a comprehensive plan for the waterway consistent with 16 U.S. Code § 803(a).*	Saxon and Superior Falls are run-of-river projects being licensed under a separate proceeding from the Gile Project. All water that is ultimately released from the Gile Flowage will pass through the two downstream projects. FERC indicated during the Initial Study Report meeting that they were unsure at that time whether one environmental analysis covering all three projects would be developed or separate environmental documents would be prepared for each project.

#	Entity, Date	Comment	NSPW Response
		In the event that the Commission elects to proceed with two separate environmental reviews and issuance of separate licenses, American Whitewater recommends that the license for Gile Flowage Storage Project includes a specific requirement to evaluate and consider modification of license conditions upon issuance of any separate license for the Superior Falls and Saxon Falls projects.	
2	AW 6/15/2023	*Section 2.2.2.2* *We appreciate and support the development of a Whitewater Recreation Plan, that includes the Saxon Falls Project, as a proposed environmental measure.*	NSPW appreciates AW's support for the development of a Whitewater Recreation Plan.
3	AW 6/15/2023	*Section 3.5.3* *We support the proposed project operations with scheduled releases for whitewater boating opportunities downstream included among project purposes for water release from Gile Flowage.*	NSPW appreciates AW's support for the scheduled whitewater releases.
4	AW 6/15/2023	*Section 3.8.1.1* *We are unclear what is meant by the statement that "NSPW operates and maintains the canoe portage at the Gile Dam. While we generally appreciate the acknowledgement of the need for portage around barriers to navigation (in this case a dam), the type of watercraft used for travel on the reservoir is very different from the watercraft used to travel down river. Traveling on the reservoir, portaging the dam, and continuing downstream on the river may be theoretically possible, but we don't anticipate this to be how most users will utilize the resource. Watercraft designed for use on the reservoir are not optimized for travel on whitewater. Watercraft designed for the river environment downstream of Gile Flowage are specialized whitewater boats capable of navigating class IV whitewater. Rather than describing this site as a portage, we believe it would be more appropriate to describe the site as a take-out accessible for paddlecraft using the reservoir and a put-in for whitewater boaters traveling downstream on the river.* *The" canoe portage" as depicted in Figure 3.8.1.1-1 should not be actively promoted.*	A canoe portage has been in place for at least 40 years and is generally required at both state-regulated dams (the Gile dam was state regulated prior to this licensing effort) and FERC hydroelectric projects. Regardless of AW's opinion on the need for a canoe portage, NSPW will continue to maintain the canoe portage over the term of the original license.
5	AW 6/15/2023	*Section 3.8.1.3.1* *As an alternative to signage for a portage, we recommend signage directing paddlecraft utilizing the reservoir to the take-out at Gile Park. We disagree with the recommendation that a put-in sign downstream of the dam is unnecessary;' 4 it is critical to have visible safety signage at the access point below the dam to discourage those who might be traveling in watercraft on the reservoir that are inappropriate for the*	NSPW has proposed to review and update or replace the Canoe Portage Take-Out sign and Part 8 sign identifying the site. As noted in the Section 3.83 of the FLA, when boaters take-out of the water and walk to the top of the earthen embankment, it is clearly evident where to put in downstream. The Part 8 sign will be located near the road and will identify the canoe portage site for those putting in at the dam. Therefore, NSPW has not proposed to install a new put-in sign at the site.

#	Entity, Date	Comment	NSPW Response
		whitewater downstream of the dam. This is particularly important given the fact that the most challenging whitewater on the river at Gile Falls is just downstream of the dam but not visible from the access point at the dam. *American Whitewater recently developed safety signage standards with support from the U.S. Coast Guard and the input of approximately 200 river safety professionals. Our toolkit that includes signage templates, iconography, and safety messages appropriate for this site is available on our website at: <https://www.americanwhitewater.org/safetysignage>. American Whitewater requests a consultation role in the development of the signage plan.*	The canoe portage has been in place for at least 40 years and will not be relocated to Gile Park. If boaters wish to take out at Gile Park, they are free to do so. NSPW utilizes safety signage similar to the safety signage at its other hydroelectric facilities in order to minimize costs and provide a consistent message. NSPW has not proposed to develop a signage plan.
6	AW 6/15/2023	*Section 3.8.1.3.5* *We challenge the assumption that "the number of recreation days for recreation facilities at the Gile Flowage Storage Reservoir Project is not expected to increase by 2040," based on the fact that "current use" is primarily by recreationists living within 50 miles of the Gile Flowage Storage Reservoir Project. Trends in visitor use at recreation destinations have been very dynamic over the past three years given the impacts of the COVID-19 pandemic.*	Please note that the population study was conducted for all of Iron County during the period of COVID restrictions. Many outdoor recreation areas received a marked increase in use as a direct result of the implications from the COVID restrictions. Therefore, there is insufficient information to support a claim this trend of increased recreational use, or even the short-term increase, will continue into the future. Stakeholders have the opportunity to request additional recreational improvements throughout the term of the license if warranted by increased use.
7	AW 6/15/2023	*Section 3.8.1.3.5* *Although Gile Park and County C Landing are mentioned in this section, there is no discussion of the adequacy of existing facilities at the tailwater area below Gile Dam generally referred to in the document as the "canoe portage." We support development of accessible fishing opportunities in the tailwater area and accommodations for barrier-free access to the river for those who have an interest in using the site as a launch point for whitewater boating. As noted above, appropriate safety signage is critical for this site.*	The canoe portage is the only recreation site owned and maintained by NSPW and the only recreation site proposed to be included as a FERC-approved recreation facility. Signage for the site is addressed in Section 3.8.3 of the FLA. NSPW has proposed to review and update or replace the Canoe Portage Take-Out sign and the Part 8 sign identifying the site. The signage will be maintained over the term of the license as part of routine maintenance. The erosion noted downstream of the dam is scheduled to be repaired by the end of August 2023. The tailwater access in its current condition is suitable for whitewater boaters. None of the boater surveys included in the Whitewater Recreation Study Report indicated that the tailwater area was inadequate for launching. Photographs in the report show boaters launching without effort at each of the flows studied. Parking is readily available at Gile Park, located approximately 160 feet east of the access site, and along the streets adjacent to the site. Several boaters remarked that they would be unlikely to boat the stretch of river immediately downstream of the dam due to the need to portage around the snowmobile bridge and/or Gile Falls. Rather, they would prefer to put in farther downstream.
8	AW 6/15/2023	*Section 3.8.1.3.5* *The discussion of adequacy of existing facilities at the County C Landing includes no mention of challenges with using the site at low reservoir elevations. A more comprehensive discussion of project-related effects of reservoir elevation on adequacy and usability of boat ramps should be included in this section. Specific measures should be implemented to address these issues.*	The recreation report analyzed reservoir elevation data to determine if water levels adversely impact recreation at the existing boat ramps. During the survey, visitors were asked to indicate if low water levels affected their current activities regarding launching a boat, boating safety, and using docks. Specifically, they were asked if low water was no problem (5), small problem (4), neutral (3), moderate problem, (2) or large problem (1). During the lowest water level of the open water season, the responses indicated that water levels were a small problem with an average of 4.2 for launching, 4.39 for boating safety, and 4.25 for using docks. A review of the survey responses regarding low water levels, as shown in Table 5-13 of the recreation study report, indicated that of the 74 individuals surveyed at the site only two indicated that low water levels

#	Entity, Date	Comment	NSPW Response
			affected launching at Gile Park. Of the 50 individuals surveyed at the County Highway C boat ramp, only two indicated low water levels impacted launching and six expressed concern with rocks or other water hazards. County C Landing is not under NSPW's ownership or control. Ultimately, the owner of the site is responsible for ongoing maintenance. Water depth information was collected at each of the boat ramps as part of the recreation study. This information is found in Section 3.8.1.4 of Exhibit E. The deepest water recorded at the end of any of the boat ramps was located at Gile Park, making this site a suitable alternative for launching boats under low water conditions. The facility features paved access roads, is located within a few of miles from the County Highway C ramp, and provides access to the deepest portion of the reservoir with the fewest obstructions during both high and low water conditions. The Gile Park Landing is not often used by individuals because a fee is charged for launching. In contrast, no fee is charged at the County C Landing.
9	AW 6/15/2023	*Section 3.8.2.1* *American Whitewater supports more active management of recreational facilities and amenities provided by the Gile Flowage Storage Reservoir Project. Management of camping, and specifically sanitation, on the islands on Gile Flowage should be evaluated.' We believe a Recreation Management Plan should be developed, with consultation requirements that include interested stakeholders, in addition to the proposed Whitewater Recreation Plan.*	NSPW has proposed to develop an Island Management Plan, in consultation with FOG and NPS, in Section 3.8.3 of the FLA. The plan would be developed within one year of license issuance and would formalize NSPW's existing land management policy and address issues regarding public access, signage, maintenance, trash removal, and enforcement of regulations on islands owned by NSPW. No camping sites or pit toilets would be allowed under the plan.
10	AW 6/15/2023	*Section 3.8.3* *American Whitewater supports the proposed measures for 1,200 cfs releases from Gile Flowage in June and September to provide a whitewater boating opportunity. We concur with the analysis presented that the proposal would not result in significant adverse effects to reservoir-based recreation given the timing to take advantage of higher reservoir inflows in June and a September event to take place after the primary open water recreation season. In the event sufficient water is available for a second release day on weekends when releases are planned, we have an interest in evaluating this opportunity. The proposed three-hour time period is likely adequate to provide a whitewater boating opportunity but we request that this be evaluated post-license along with associated reporting requirements. This evaluation should also include an assessment of the ability for the release to provide an opportunity later in the day in the Saxon Falls Gorge.*	NSPW is only proposing to conduct two annual whitewater releases. During normal operations, water is conservatively released from the Gile Dam on a daily basis for project purposes other than whitewater boating, such as pleasure boating, hunting, and providing aquatic habitat. A request to withdraw additional water from the reservoir prioritizes whitewater boating above these other recreation needs. Therefore, the request does not properly balance all of the recreation resource needs and should not be granted.
11	AW 6/15/2023	*American Whitewater supports the development of a Whitewater Recreation Plan developed and implemented within one year of license issuance. We recommend that the plan include a description of the following:*	In Section 3.8.3 of the FLA, NSPW proposes to develop a Whitewater Flow Recreation Plan in consultation with AW and NPS. The plan will include specific information regarding the exact weekend each year the flows should be released and the time of day each flow release should begin. A similar plan was specified in the final license application for the Saxon Falls Project. NSPW proposes to develop the Gile Flowage Whitewater Recreation Plan in conjunction with the Saxon Falls Whitewater Recreation Plan.

#	Entity, Date	Comment	NSPW Response
		(1) the frequency, magnitude, duration, and timing of each whitewater release event during the first three-year period and the mechanism for determining such parameters during subsequent years; *(2) operational, biological, and other constraints upon whitewater release events;* *(3) the ongoing involvement (including annual meetings) that include American Whitewater, National Park Service, Friends of Gile Flowage, and other license participants as identified in this proceeding on development of the Whitewater Recreation Plan;* *(4) the mechanism for timing whitewater release events to coincide with natural or planned hydrologic events including seasonal or maintenance drawdowns of Gile Flowage, integrate with recreational opportunities on the Montreal River associated with operation of the Saxon Falls Project, or coordinate with project generation or other License Article obligations to achieve greater flow volumes in desired reaches or habitats;* *(5) mechanism for timing whitewater release events to avoid conflicts with other scheduled whitewater release events in the region;* *(6) mechanism for notifying whitewater boating stakeholders of whitewater boating opportunities during scheduled whitewater release events and other natural or planned high flow events (within the range of acceptable flows for whitewater boating) within the Montreal River;* *(7) mechanism for assessing the boaters' satisfaction during whitewater release events and any impacts to aquatic and terrestrial resources;* *(8) mechanism for recording the number of participants, safety incidents, and costs; and* *(9) the timing and other restrictions necessary to minimize impacts to aquatic resources and to minimize impacts of reservoir fluctuations on Gile Flowage.*	Under the proposed reservoir elevation restrictions, the proposed whitewater flow releases in June and September are not expected to result in significant adverse effects to water-based recreation. The June release would typically coincide with the time of year when inflows to the reservoir are higher. The September release is scheduled to occur after the primary open water recreation season, which generally ends on the first weekend in September (Labor Day Weekend). Therefore, NSPW has not proposed to consult with FOG on the development of the plan. There are no regularly scheduled maintenance drawdowns at the Project. Daily drawdowns are typically limited to 0.1 feet per day, not to exceed 0.2 feet per day, and generally do not provide sufficient flow to support whitewater boating downstream of the Project. To minimize adverse impacts to aquatic resources, NSPW proposes to gradually ramp up flows over 1 hour prior to each whitewater release. Similarly, NSPW proposes to gradually ramp flows down over 1 hour after each release. Any other requests for items to be included in the (Whitewater Flow Recreation Plan) plan have already been properly addressed by NSPW in their analysis in the final license application. Requests beyond what NSPW has already proposed would result in additional financial burden in regard to hydroelectric generation with little or no additional benefit. The Whitewater Flow Recreation Plan is essentially a flow release plan that outlines when the flows should be released, how much flow should be released, and a three-year evaluation to make sure the flows that were released during the test continue to be released for the remaining term of the original license. There is no need to include a stipulation in the plan for modifying the schedule of releases in subsequent years. The operational, biological, and other constraints upon whitewater releases are already outlined in the final license application and are not needed in the plan. Once the plan is developed, there is no need for annual meetings and ongoing involvement of participants because the three-year test period fulfills the need for consultation (regarding the effectiveness of the flow releases). The timing of the release events has already been evaluated and coordinated to coincide with natural events as much as possible; however, coordination with releases at other hydroelectric facilities limits scheduling possibilities at the Gile Flowage. NSPW is not proposing any maintenance drawdowns (see response to RAW Comment #6). Information regarding notification of boaters will be provided in the Whitewater Recreation Plan when it is developed. NSPW has agreed to post whitewater release information, daily discharge, and daily reservoir elevation information on its website. During the licensing process, many boaters graciously provided input regarding whitewater opportunities. If boaters are not satisfied with the releases, they may contact either NSPW or the Commission and express their concerns.

#	Entity, Date	Comment	NSPW Response
			At this time, NSPW has not set any restrictions on its whitewater release proposal based upon use. Therefore, there is no need to collect information on the number of participants and the cost of the releases. If NSPW seeks a change to the number of releases due to lack of use, it will collect information on use and cost necessary to request a license amendment seeking to modify the whitewater plan. In regard to safety incidents, whitewater boating poses many safety risks to those who participate. NSPW does not condone the use of water being released for the purposes of boating; however, it will not and cannot prohibit boaters from using its put-in site. NSPW is not responsible for the safety of boaters utilizing the whitewater releases. It encourages boaters, like all recreationists, to contact them as soon as possible if there are any safety concerns identified on NSPW-owned property associated with the whitewater releases. There is no need to develop a new mechanism for the reporting of unsafe conditions at NSPW facilities.
12	AW 6/15/2023	*We recommend the following license condition for development of the Whitewater Recreation Plan:* *Within six months of license issuance, the Licensee shall develop a Whitewater Recreation Plan in consultation with American Whitewater, Friends of Gile Flowage, National Park Service (NPS), and other consulting parties as identified in this proceeding and submit the plan to the Commission for approval. The plan shall be implemented for the first June or September whitewater release event following Commission approval.* *In the development of the plan, the Licensee shall provide a minimum of thirty days for consulting parties to comment and make recommendations. When filing the plan with the Commission, the Licensee shall include documentation of consultation, copies of comments and recommendations, and specific descriptions of how comments and recommendations from consulting parties are accommodated by the Whitewater Recreation Plan. If the Licensee does not adopt a recommendation, the filing shall include the Licensee's reasons based upon project-specific information.*	In Section 3.8.3 of the FLA, NSPW has proposed to develop a Whitewater Flow Recreation Plan in consultation with AW and NPS. The plan will include specific information such as the exact weekend each year the flows should be released and the time of day each flow release should begin. A similar plan was specified in the final license application for the Saxon Falls Project. NSPW proposes to develop the Gile Flowage Whitewater Recreation Plan in conjunction with the Saxon Falls Whitewater Recreation Plan. Under the proposed reservoir elevation restrictions, the proposed whitewater flow releases in June and September are not expected to result in significant adverse effects to water-based recreation. The June release would typically coincide with the time of year when inflows to the reservoir are higher. The September release is scheduled to occur after the primary open water recreation season, which generally ends on the first weekend in September (Labor Day Weekend). Therefore, NSPW has not proposed to consult with FOG on the development of the plan. NSPW will address any stakeholder comments in the final plan filed with FERC.
13	AW 6/15/2023	*We recommend the following license condition for ongoing monitoring, management, and consultation on any changes to the Whitewater Recreation Plan following its initial Commission approval:* *The Licensee shall consult and collaborate with American Whitewater, Friends of Gile Flowage, National Park Service, and other consulting parties as identified in this proceeding on an annual basis to set the schedule for whitewater release events and determine whether the Whitewater Recreation Plan is providing a meaningful whitewater experience and whether the plan should be modified to improve the experience. The Licensee and consulting parties may request that the Commission revise the plan based upon data collected on whitewater boater experiences. In the event that the plan is revised, the Licensee shall continue*	In Section 3.8.3 of the FLA, NSPW has proposed to develop a Whitewater Flow Recreation Plan in consultation with AW and NPS. The plan will include specific information such as the exact weekend each year the flows should be released and the time of day each flow release should begin. A similar plan was specified in the final license application for the Saxon Falls Project. NSPW proposes to develop the Gile Flowage Whitewater Recreation Plan in conjunction with the Saxon Falls Whitewater Recreation Plan. Under the proposed reservoir elevation restrictions, the proposed whitewater flow releases in June and September are not expected to result in significant adverse effects to water-based recreation. The June release would typically coincide with the time of year when inflows to the reservoir are higher. The September release is scheduled to occur after the primary open water recreation season, which generally ends on the first weekend in September (Labor Day Weekend). Therefore, NSPW has not proposed to consult with FOG on the development of the plan.

#	Entity, Date	Comment	NSPW Response
		to consult annually for the term of the license with consulting parties on whether the plan shall be further modified and to schedule whitewater release events.	Since the plan will identify the annual schedule of releases and the volume of flows to be released, there is no need to consult annually with stakeholders. See also response to AW comment #11 regarding the Whitewater Flow Recreation Plan.
14	AW 6/15/2023	*American Whitewater appreciates and supports the proposal to provide daily flow information for the Gile Flowage Dam that would allow paddlers within a reasonable proximity to the Gile Flowage Storage Reservoir Project to take advantage of natural flows in the West Fork and Saxon Falls Gorge. The flow information should include both the release from Gile Flowage Dam and flow downstream of the Saxon Falls Hydroelectric Project. American Whitewater supports the Licensee providing access to real-time flow information on the company website utilizing an Application Programming Interface (API) that provides data through a server that allows other clients to access the data. This would allow our organization and others to integrate the data into websites that provide information to the public. The applicant's website should also include information on how to access the river and any forecast or operational information that could affect instream flows. American Whitewater requests a consultation role for the development of the presentation and format of flow information.*	NSPW is proposing to provide daily flow data for the Gile Dam to the public. Due to computer security concerns, it is not possible to provide an API interface that may be used by other entities. If desired, stakeholders could create a link to the NSPW website with the flow information. The NSPW website will also provide information on the timing of any required whitewater recreation flow releases and daily reservoir elevations. AW can provide a link to NSPW's website if it desires. NSPW is not proposing to provide any other flow forecasts on its website nor does it plan to consult with stakeholders regarding the format of flow information.
15	AW 6/15/2023	*In the DLA, the Applicant proposes providing flow release and storage reservoir elevation information on the internet — estimating a capital cost of $50,000 and annual Operation & Maintenance cost of $1,000. 1 The NPS requests the Applicant provide additional information on how these above costs were determined. In addition, the NPS recommends the Applicant share real-time flow information for the public online and the data be shareable for use by third-party sites using Application Programming Interface (API).*	NSPW is proposing to provide daily flow data for the Gile Dam to the public. Due to computer security concerns, it is not possible to provide an API interface that may be used by other entities. If desired, stakeholders could create a link to the NSPW website with the flow information. The NSPW website will also provide information on the timing of any required whitewater recreation flow releases. NSPW is not proposing to provide any other flow forecasts on its website. The cost was based on a capital budgeting estimate using costs for other website-related updates including anticipated costs for the purchase and installation of monitoring equipment. Once the monitoring equipment is established, maintenance of the equipment and the website is relatively inexpensive.
16	AW 6/15/2023	• *Provide whitewater class and timing/amount of recreation flow information to the public online.*	NSPW has proposed to provide daily flow data for the Gile dam online. The website will also provide information on the timing of any required recreation flow releases.
17	AW 6/15/2023	• *Provide signage at portage sites and recreation areas on the reservoirs that include a QR code and the website address for the public to access up-to-date information on real- time flows, reservoir elevation, and flow release schedules.*	NSPW is proposing to review and update or replace its Part 8 sign at the Canoe Portage site. This is the only portage site where NSPW has the necessary rights to post signage. The sign will include information on how to access the NSPW website. NSPW has proposed to provide daily flow data for the Gile Dam online. The website will also provide information on the timing of any required recreation flow releases. NSPW's contact information will already be included on the Part 8 sign.
18	AW 6/15/2023	• *Consult with the NPS, the Wisconsin DNR, FOG, AW, and local recreation users on developing a public website*	NSPW is proposing to provide daily flow data of flows downstream of the Gile Dam online. The NSPW website will also provide information on the timing of any required whitewater recreation flow releases. NSPW is not proposing to provide any other flow forecasts on its website nor does it plan to consult with stakeholders on its content.

#	Entity, Date	Comment	NSPW Response
19	AW 6/15/2023	*Moreover, the Applicant "is proposing to develop a Whitewater Recreation Plan in consultation AW and NPS within one year of license issuance. 2 The NPS recommends the Applicant does following for the Whitewater Recreation Plan:* • *Consult with the FOG as flow releases may impact their properties bordering Gile Flowage (project impoundment).* • *Consult and coordinate with AW, FOG, and the NPS to select dates for flow releases and announcement of the scheduled flow releases.* • *Invite the Wisconsin DNR and Michigan DNR to participate as consultants in the Whitewater Recreation Plan or the annual flow release date selection.*	In Section 3.8.3 of the FLA, NSPW has proposed to develop a Whitewater Flow Recreation Plan in consultation with AW and NPS. The plan will include specific information such as the exact weekend each year the flows should be released and the time of day each flow release should begin. A similar plan was specified in the final license application for the Saxon Falls Project. NSPW proposes to develop the Gile Flowage Whitewater Recreation Plan in conjunction with the Saxon Falls Whitewater Recreation Plan. Under the proposed reservoir elevation restrictions, the proposed whitewater flow releases in June and September are not expected to result in significant adverse effects to water-based recreation. The June release would typically coincide with the time of year when inflows to the reservoir are higher. The September release is scheduled to occur after the primary open water recreation season, which generally ends on the first weekend in September (Labor Day Weekend). Therefore, NSPW has not proposed to consult with FOG on the development of the plan. The Project is located entirely within the State of Wisconsin. Therefore, NSPW has not proposed to consult with Michigan DNR regarding the plan.
1	NPS 6/15/2023	*The NPS supports the Applicant's recommendation to provide flow release information to the public online. The additional information the NPS requests regarding website content, location, and signage will help improve the visitor experience and safety in the project area. It is pertinent to identify where this information will be located on the internet to give stakeholders and the public a better understanding of where to find flow release and storage reservoir elevation information. Moreover, ensuring the Applicant creates the website data in a way that allows third-party sharing of the data will allow for greater public access to the information.* *The NPS requests the Applicant provide real-time flow information, whitewater class and difficulty level, and other relevant site information that is easily accessible, including signage and online, to allow advanced and more informed recreational decisions by the public thereby improving the visitor experience and safety. Other hydropower project licensees provide this information to the public, including Grandfather Falls (P-1966).*	NSPW is proposing to provide daily flow data for the Gile Dam. Due to computer security concerns, it is not possible to provide an API interface that may be used by other entities. If desired, stakeholders could provide a link to the NSPW website with the flow information. The NSPW website will also provide information on the timing of any required whitewater flow releases. NSPW is not proposing to provide any other flow forecasts on its website. See also response to AW comment #14.
2	NPS 6/15/2023	*The NPS requests the Applicant provide real-time flow information, whitewater class and difficulty level, and other relevant site information that is easily accessible, including signage and online, to allow advanced and more informed recreational decisions by the public thereby improving the visitor experience and safety. Other hydropower project licensees provide this information to the public, including Grandfather Falls (P-1966).*	In Section 3.8.3 of the FLA, NSPW proposes to provide daily flow information for the Gile Dam to allow paddlers within a reasonable proximity to the Project to take advantage of natural high flow events in the West Fork, and consequently in the Saxon Falls Gorge downstream. A similar proposal was included in the final license application for the Saxon Falls Project. See also response to AW comment #14.
3	NPS 6/15/2023	*The NPS supports the Applicant's recommendation to develop and consult with AW and the NPS on the Whitewater Release Plan. Including the FOG within the Whitewater Release plan brings potentially*	NSPW will develop the Whitewater Recreation Plan in consultation with AW and NPS. The plan will include one scheduled release in June and one scheduled release in September. The dates will be determined in consultation with AW and NPS. By having the dates set annually, annual meetings to coordinate the release schedule are unnecessary, and therefore have not been proposed by NSPW.

#	Entity, Date	Comment	NSPW Response
		affected interested stakeholders to the discussion and will help build a more balanced Whitewater Release Plan. Finally, including an annual meeting for the Applicant, AW, and FOG to meet and select dates for flow releases will ensure time is set aside for the planning and discussing of the best days/times to schedule flow releases with interested stakeholders. *With this information, interested stakeholders and the Applicant can post information about the scheduled flow releases in advance for the public to plan ahead for whitewater boating*	
4	NPS 6/15/2023	*Island Management Plan* *The NPS requests the Applicant develop an Island Management Plan (Island Plan). The purpose of the Island Plan is to develop guidance and define a strategy for managing outdoor recreation use and educational opportunities while protecting natural, riparian, and cultural resources. The NPS recommends the Island Plan, at a minimum, include the following: a purpose, background, proposals for recreation improvements, management strategies, maintenance, monitoring, and implementation schedule.* *Furthermore, the Island Plan should include a natural resource survey to develop a baseline of existing plants and animals are present on the island.* *The NPS recommends the Applicant:* • *Develop the Island Plan in consultation with the NPS, FOG, and other interested stakeholders.* • *Manage current and projected future recreation use through improvements such as preventive and management measures, such as garbage bins and portable toilets or latrines.* • *Management strategies should include signage, visitor education, Leave No Trace policies, and safety measures.* • *The Island Plan should describe how frequently the Applicant will monitor the islands and mitigate any litter and vandalism issues.* • *Ensure island clean-ups, including maintaining the pit toilets and garbage bins.*	NSPW has proposed to develop an Island Management Plan, in consultation with FOG and NPS, in Section 3.8.3 of the FLA. The plan would be developed within one year of license issuance and would formalize NSPW's existing land management policy and address issues regarding public access, signage, maintenance, trash removal, and enforcement of regulations on islands owned by NSPW. No camping sites or pit toilets would be allowed under the plan.
5	NPS 6/15/2023	*Signage Management Plan* *The NPS requests the Applicant develop a Signage Management Plan (Signage Plan). The purpose of the Signage Plan is to develop guidance and define a strategy for developing, managing, and maintaining signage around the reservoir. The NPS recommends developing and designing the Signage Plan in consultation with the NPS, FOG, AW, and other interested stakeholders and, at a minimum, include the following:*	The Canoe Portage is the only recreation site owned and maintained by NSPW and the only site proposed to be included as a FERC-approved recreation site. Signage for the site is addressed in Section 3.8.3 of the FLA. NSPW has proposed to review and update or replace the Canoe Portage Take-Out sign and the Part 8 sign identifying the site. The signage will be maintained over the term of the license as part of routine recreation site maintenance. NSPW has already developed a public safety plan for the Project per the direction of the FERC-Chicago Regional Office. The remaining recreation sites are not under NSPW's ownership or control. While the recreation study did identify the need for improvements to regulation and interpretive signage at some of these sites, these

#	Entity, Date	Comment	NSPW Response
		• *A purpose, background, signage locations, signage content, a maintenance schedule, monitoring, and an implementation schedule.* •*Interpretation, background information on Gile Flowage, flow release schedules, maps of the area, access sites situated on the reservoir, the portage route, a map of the river downstream of the dam, and regulations.* • *Descriptions of the hydropower project and how the project is subject to frequent flow changes.*	deficiencies do not compromise the sites ability to provide public access. Ultimately, the owners are responsible for the ongoing maintenance (including signage) of the sites. Therefore, NSPW has not proposed to develop a signage management plan. Information regarding recreation flow releases will be addressed in the Whitewater Recreation Plan as identified in Section 3.8.3 of the FLA.
6	NPS 6/15/2023	*Enhance the Tailwater area of Gile Flowage to include a sign for the put-in below the dam.* *While the Applicant states that they operate and maintain a canoe portage at the Gile Dam, this site is not used as a portage route for through paddlers. Those wanting to take out near the dam do so at Gile Park, which is also where they generally put their boats in the reservoir.*	NSPW has proposed to review and update or replace the Canoe Portage Take-Out sign and Part 8 sign identifying the site. As noted in the Section 3.83 of the FLA, when boaters take-out of the water and walk to the top of the earthen embankment, it is clearly evident where to put in downstream. The Part 8 sign will be located near the road and will identify the canoe portage site for those putting in at the dam. Therefore, NSPW has not proposed to install a new put-in sign at the site. The canoe portage has been in place for at least 40 years and will not be relocated to Gile Park. If recreationists wish to take out at Gile Park, they are free to do so. Concerns about the condition of the Put-In were not expressed by the whitewater boaters during the 2022 study.
7	NPS 6/15/2023	*Enhance the Tailwater area access site for whitewater boaters as well as amenities to support these users.* • *Whitewater boaters use the site to access the Tailwater area and the site needs maintenance due to erosion.*	The tailwater access in its current condition is suitable for whitewater boaters. Several boaters remarked that they would be unlikely to boat the stretch of river immediately downstream of the dam due to the need to portage around the snowmobile bridge and/or Gile Falls. Rather, they would prefer to put in farther downstream. As noted in Section 3.3.4.1 of the FLA, NSPW will repair the downstream erosion along the west wingwall by the end of August 2023.
8	NPS 6/15/2023	• *Develop the Tailwater area improvements in consultation with the Wisconsin DNR, the NPS, AW, the FOG, and other interested stakeholders.*	As noted above, NSPW has not proposed any recreational improvements at the tailwater area.
9	NPS 6/15/2023	*Whitewater boaters utilize this area to put-in at the Tailwater area. Enhancing the put-in site for whitewater boaters will meet the increasing demand of paddlers. Currently, the Tailwater area access site is not adequate for whitewater boaters who use this area to put-in; this was noted by participants of the study to examine potential whitewater boating releases.*	None of the boater surveys included in the Whitewater Recreation Study Report indicated that the tailwater area was inadequate for launching. Photographs in the report show boaters launching without effort at each of the flows studied. Parking is readily available at Gile Park, located approximately 160 feet east of the access site, and along the streets adjacent to the site. Several boaters remarked that they would be unlikely to boat the stretch of river immediately downstream of the dam due to the need to portage around the snowmobile bridge and/or Gile Falls. Rather, they would prefer to put in farther downstream. Concerns about the condition of the Put-In were not expressed by the whitewater boaters during the 2022 study.
10	NPS 6/15/2023	*Recommendation 4: Accessible Fishing Platform and Pathway*	Gile Park currently provides for ADA accessible amenities including parking spaces, pathways, restrooms, and a picnic shelter. NSPW proposes to relocate barriers on the earthen embankment to allow passage of wheelchairs thereby re-establishing accessible access to the Gile Dam. NSPW has not proposed to improve the tailwater access. This is due to the topography, restrictions on ground disturbing activities within the

#	Entity, Date	Comment	NSPW Response
		The NPS recommends the Applicant place a fishing platform and pathway that is compliant with Americans with Disabilities Act (ADA) standards along the shoreline to ensure recreation opportunities for people with limitations or disabilities. The NPS recommends the Applicant: *•Consult with the Wisconsin DNR, the NPS, local land managers, and other stakeholders regarding the location for the accessible platform and pathway* *o Gather and analyze information to better understand the potential effects to fisheries and spawning locations, especially in the Tailwater Area in consultation with the Wisconsin DNR, Michigan DNR, and other stakeholders*	earthen embankment, wetlands downstream of the embankment, the degree of disturbance, and the cost involved with establishing an ADA accessible and fishing platform. There is a large quantity of existing information regarding fisheries both within the reservoir and downstream of the Project in the West Fork. This request is an additional study request and NPS has not provided the required rationale on why the existing fisheries information is insufficient.
11	NPS 6/15/2023	*The installation of a platform that is ADA-compliant will meet recreational needs and provide a reliable accessible way for the public to fish. In response to the recreation survey conducted by the Applicant, a respondent indicated that the closure of the embankments made it impossible for people with disabilities to fish the shoreline. 8 This comment displays a need for more opportunities for people with disabilities to fish and recreate on the reservoir. In addition, providing accessible recreation opportunities enables access for visitors with limitations or disabilities to the Project area. Installing an ADA-compliant platform and pathway and necessities, e.g., bathrooms, signage, and trash bins, will help meet this need.*	As noted in NSPW's response to NPS Comment #10 above, NSPW is proposing to relocate existing barriers on the earthen embankment to re-establish ADA access to the Gile Dam. This action, combined with the existing accessible facilities at the adjacent Gile Park (parking, pathways, restrooms, and picnic shelter), will ensure sufficient ADA access to the Project.
12	NPS 6/15/2023	*Rationale 4* *The installation of a platform that is ADA-compliant will meet recreational needs and provide a reliable accessible way for the public to fish. In response to the recreation survey conducted by the Applicant, a respondent indicated that the closure of the embankments made it impossible for people with disabilities to fish the shoreline. 8 This comment displays a need for more opportunities for people with disabilities to fish and recreate on the reservoir. In addition, providing accessible recreation opportunities enables access for visitors with limitations or disabilities to the Project area. Installing an ADA-compliant platform and pathway and necessities, e.g., bathrooms, signage, and trash bins, will help meet this need.* *Gathering information about the Tailwater area for fisheries and fish spawning habitats will give stakeholders and the Applicant a better and complete understanding of the Tailwater area in order to balance recreation needs with conservation efforts.* *Regarding angler needs, the installation of an ADA-compliant platform will meet recreational needs and provide a reliable accessible way for the public to fish. Survey respondents noted that they fish in the Tailwater area and would like to see the area improved. 9 A potential platform in the Tailwater area will*	See NSPW's responses to NPS Comments #10 and #11, above.

#	Entity, Date	Comment	NSPW Response
		alleviate barriers for the public to access the Tailwater area, pending analysis of potential effects to fisheries and spawning in this location. *Finally, it is important that recreational usage is accommodated via an ADA-compliant parking lot near the ADA-compliant platform. A parking lot for visitors is currently not available at the dam. The Applicant describes parking being available at Gile Park or along neighborhood streets for the put-in below the dam, which is insufficient.*	
13	NPS 6/15/2023	*The NPS recommends the Applicant consult with land managers to provide maintenance and mitigation measures at the access road to Sucker Hole Landing and at County Highway C Landing to ensure public use of the docks and ramp at low water levels.*	As the owner of the Project, NSPW is responsible only for Project facilities. The boat landing sites are not FERC-approved recreation facilities and NSPW has no ownership or control over the facilities. NSPW has consulted with the owners of the recreation facilities throughout the licensing process. None of the owners have identified that improvements are necessary. Ultimately, the owners of the sites are responsible for ongoing maintenance of the sites. County C and Sucker Hole Landing is not under NSPW's ownership or control. Ultimately, the owners of the sites are responsible for ongoing maintenance. Water depth information was collected at each of the boat ramps as part of the recreation study. This information is located in Section 3.8.1.4 of Exhibit E. The deepest water at the end of any of the ramps was located at Gile Park, making this site a suitable alternative for launching boats under low water conditions. The facility features paved access roads, is located within a few of miles from the County Highway C ramp, and provides access to the deepest portion of the reservoir with the fewest obstructions during both high and low water conditions. The Gile Park Landing is not often used by individuals because a fee is charged for launching. In contrast, no fee is charged at the County C Landing.
14	NPS 6/15/2023	*Additionally, the Applicant should partner with the land managers to conduct yearly maintenance on the ramp and docks to ensure these are in working order, safe, and reliable for public use, and do so in consultation with the Wisconsin DNR, local land managers, the NPS, FOG, and other interested stakeholders.*	As the owner of the Project, NSPW is only responsible for Project facilities. The boat landings are not FERC-approved recreation facilities and NSPW has no ownership or control over them. NSPW has consulted with the owners of the recreation facilities throughout the licensing process. Ultimately, the owners responsible for the continued maintenance of their respective sites. It is unreasonable to expect NSPW to annually consult with entities (stakeholders) which have no ownership in, or responsibility for, the recreation sites. This is especially true considering the sites are not under NSPW's control. Therefore, annual consultation has not been proposed in the FLA.
15	NPS 6/15/2023	*County Highway C Landing is a major access site for the public on the reservoir. Low water levels on the reservoir directly relate to project operation and impacts access to landings located within the Project boundary. This indicates a responsibility of the Applicant to mitigate and improve these access sites.*	As noted in the response to NPS Comment #16 below, the Gile Park boat landing provides low water access to the reservoir and is in relatively close proximity to the County C boat landing, in the event users determine it is too shallow to launch a boat there. This ramp also launches into the deepest portion of the reservoir with the fewest obstructions during low water conditions. It is the licensee's responsibility to ensure that there is public access to the Project reservoir, and this responsibility is met since other boat ramps are available for use during low water conditions.

#	Entity, Date	Comment	NSPW Response
			Water depth information was collected at each of the boat ramps as part of the recreation study. This information is located in Section 3.8.1.4 of Exhibit E. The deepest water at the end of any of the ramps was located at Gile Park, making this site a suitable alternative for launching boats under low water conditions. The facility features paved access roads, is located within a few of miles from the County Highway C ramp, and provides access to the deepest portion of the reservoir with the fewest obstructions during both high and low water conditions. The Gile Park Landing is not often used by individuals because a fee is charged for launching. In contrast, no fee is charged at the County C Landing.
16	NPS 6/15/2023	*DLA survey respondent data, indicate significant problems launching boats, using the docks safely, and boating safety County Highway C Landing due to low reservoir levels and facilities that need maintenance. 11 Many survey respondents indicated problems with the ramp and dock at County Highway C Landing; respondents want the ramp to be replaced and widened with a new dock. 12 Respondents also stated that the ramp and docks were unsafe and hazardous to use.*	The County Highway C Landing is not owned or maintained by NSPW. While the Recreation Study Report indicated that the concrete launching surface was cracked and uneven, the site received a rating of "good working condition" since these factors do not compromise the function of the boat landing. Furthermore, when viewing the 14 photographs provided in Appendix 2 of the recreation report, one can determine whether the County Highway C Landing is in good condition and regularly maintained. NPS's claim that 12 respondents stated the boat landing and dock were unsafe and hazardous is not accurate. Of the 50 people surveyed at the Highway C boat lamp, 12 (24% of respondents) indicated that they would like to see the dock repaired or replaced and 14 (28% of respondents) indicated that they would like to see the boat ramp widened or replaced. Only a few of those individuals expressed concerns that the facilities were unsafe. The majority of individuals gave the boat ramp and dock a neutral or better rating. If launching is a concern during low water conditions, Gile Park serves as a suitable alternative low-water launch site, which is located relatively close to the County Highway C boat landing. Some recreation users prefer the County Highway C Boat Landing over the Gile Park Landing as the former doesn't charge a fee.
17	NPS 6/15/2023	*Moreover, on page E-79 of the DLA, the Applicant suggested that when County Highway C Landing "is not usable at low water levels, the nearby Town of Pence Landing and Gile Park landings are appropriate substitutes. However, survey respondents indicated that it is also difficult to launch boats at Gile Park and Town of Pence Landing when reservoir levels are low.* *The NPS recommends that this is not an appropriate substitute to low water levels and recreational demands. The only site currently available to launch at during low water levels is Sucker Hole Landing. This particular launch site requires a minimum 20-minute drive along a gravel road not suitable for larger boats. These conditions may deter visitors and thereby does not address user demand.*	The recreation report analyzed reservoir elevation data to determine if water levels adversely impact recreation at the existing boat ramps. During the survey, visitors were asked to indicate if low water levels affected their current activities regarding launching a boat, boating safety, and using docks. Specifically, they were asked if low water was no problem (5), small problem (4), neutral (3), moderate problem, (2) or large problem (1). During the lowest water level of the open water season, the responses indicated that water levels were a small problem with an average value of 4.2 for launching, 4.39 for boating safety, and 4.25 for using docks. A review of the survey responses regarding low water levels, as shown in Table 5-13 of the recreation study report, indicated that of the 74 individuals surveyed at the site only two indicated that low water levels affected launching at Gile Park. Of the 50 individuals surveyed at the County Highway C boat ramp, only two indicated low water levels impacted launching and six expressed concern with rocks or other water hazards. Water depth information was collected at each of the boat ramps as part of the recreation study. This information is located in Section 3.8.1.4 of Exhibit E. The deepest water at the end of any of the ramps was located at Gile Park, making this site a suitable alternative for launching boats under low water conditions. The facility features paved access roads, is located within a few of miles from the County Highway C ramp, and provides access to the deepest portion of the reservoir with the fewest obstructions during both high and low water conditions. Although Sucker Hole Landing is listed by FOG as a low water launch site, the recreation study results confirmed that the concrete ramp was entirely exposed during the lowest water conditions encountered

#	Entity, Date	Comment	NSPW Response
			during the study. Boaters continued to utilize the ramp for launching despite the concrete ramp being exposed under low water conditions.
18	NPS 6/15/2023	*The County Highway C Landing access site is centrally located for recreating access on Gile Flowage. Yet, according to survey respondents, it is difficult to use during low reservoir levels. Ensuring the Applicant consults with land managers to help maintain the docks and ramps will help mitigate future maintenance costs and meet current and future recreation use needs.*	Iron County owns the County Highway C ramp and is therefore responsible for maintaining the facility. Iron County developed the *Iron County Recreation Plan, 2021-2025* (located in Appendix E-22 of the DLA) to update the county's recreation resources, anticipate future demands, and identity recommendations for public outdoor recreation facilities. While the plan did not have any specific recommendations for improvements at the County Highway C boat ramp, it did indicate that the County will continue to maintain all existing facilities. NSPW consulted with Iron County throughout the licensing process. While the County responded to the informational questionnaire sent prior to the development of the PAD, they have not provided any comments on the PAD, study plans, study reports, or the DLA. As noted in NPS Comment #17 (above), there are suitable alternatives to launch boats during low water conditions should recreationists determine that the County Highway C boat landing is too shallow.
19	NPS 6/15/2023	*Project Boundary* *The NPS recommends the proposed Project boundary match the proposed APE, particularly in the area below the dam. There is a direct impact of dam-related activity downstream from dam operations. The Project boundary should be the same as the APE to capture all impacts.* *Additionally, recreational use and the access site below the dam emphasizes public use downstream of the dam, as stated above under Recommendation 3.*	NSPW concurs with the NPS request to utilize the Project APE as the Project boundary upstream of the dam. The APE extends to the maximum reservoir elevation of 1490 feet NGVD, the same elevation as the proposed Project boundary. The APE was expanded downstream of the dam to Gile Falls in order to study the effects of dam releases in this area. Study results indicate that this area is stable and provides suitable aquatic habitat during normal Project operations. Therefore, NSPW has not included the West Fork downstream to Gile Falls within the proposed Project boundary.
20	NPS 6/15/2023	*Moreover, the Applicant proposes 16 ft of water fluctuation and flooding easement rights. We recommend the proposed Project boundary be established at 1500.0 ft NGDV, which is consistent with flowage and easement and improve protection of the riparian zone.*	NSPW has proposed to maintain the reservoir between elevations 1475 and 1490 feet NGVD. This 15 foot range has been used since the dam was originally constructed. Under the proposed operation, which retains the 15 foot range, the reservoir elevation drawdown would typically be restricted to approximately 0.1 feet per day, but no more than 0.2 feet per day, to balance the needs of downstream generation with the needs of recreation and aquatic environment.[3] NSPW provided information regarding its flowage rights in Appendix M of the Proposed Study Plan. This information indicates that NSPW owns flowage rights to elevations 1495 or 1500 feet NGVD in most areas. NSPW has the property rights necessary for the operation of the project. Simply because NSPW's flood rights exceed the reservoir's upper operating elevation (1490.0' NGVD) does not mean such rights should be included in the Project boundary and thus under Commission's jurisdiction. Indeed, the area above elevation 1490.0' NGVD is not needed for project purposes. Furthermore, just because NSPW owns flowage rights, does not mean it intends to flow those lands on a periodic basis. FERC project boundaries are not established based on the extent of existing flowage rights, which may extend far beyond the reach of any operational impact, but on those lands necessary for Project operations.

[3] Except for scheduled whitewater releases and emergencies beyond NSPW's control.

#	Entity, Date	Comment	NSPW Response
			NPS's blanket statement that the Project boundary should be set at 1500 feet NGVD is not feasible given the earthen portions of the dam have a maximum elevation of 1495 feet NGVD. The 1500-foot elevation boundary request would result in the inclusion of several private residences and other structures and privately owned lands (likely owned by members of FOG) adjacent to the reservoir within the boundary and therefore subject to FERC jurisdiction. In some areas the 1500-foot NGVD elevation line is over 1/8 mile from the reservoir's shoreline. If the boundary were set at that elevation (i.e., 1500 feet NGVD), NSPW would likely have to obtain additional flowage rights that it does not currently own, for lands that are not impacted by Project operations. NSPW has proposed 1490 feet NGVD as the Project boundary because that is the maximum operational elevation of the reservoir.
21	NPS 6/15/2023	*Environmental Review Process and Coordination with Saxon and Superior* *As stated in previous letters, Saxon Falls (P-2610) and Superior Falls (P-2587) Projects depend on the Gile Flowage Project. The NPS recommends a comprehensive flow model and environmental review of all three Projects at one time to provide stakeholders with more complete information on project effects. See the following:* *"Due to the dependance of Saxon Falls and Superior Falls Projects on releases from Gile Flowage for power generation, and the impacts of those releases on flow-dependent recreation on the West Fork Montreal River and Montreal River below Saxon Falls, and water-level- affected recreation and land use at Gile Flowage, assessing impacts on recreation at all three projects would be best accomplished through a single environmental review process. The single process would also address impacts to other resources that are affected by flows and reservoir levels stemming from the interconnected project operations. This approach would allow for a comprehensive understanding of individual project effects and cumulative effects and provide an efficient means of evaluating interrelated issues associated with all three projects in the Montreal River Basin. This, in turn, would enhance the ability of FERC to issue license decisions that are best adapted to a comprehensive plan for the waterway consistent with 16 U.S. Code § 803(a). ' 5*	Saxon and Superior Falls are run-of-river projects being licensed under a separate proceeding from the Gile Flowage. All water that is ultimately released from the Gile Flowage will pass through the two downstream projects. It is FERC's responsibility to evaluate the effects of each project's operations. FERC indicated during the Initial Study Report meeting that they were not sure at that time whether one environmental document covering Saxon Falls, Superior Falls, and the Gile Flowage would be developed or whether separate environmental documents would be prepared. Regardless of the number of environmental documents prepared, the impacts from the proposed operations of all projects will be addressed as part of FERC's review of each license application.
1		*A total of 6 whitewater boaters provided comments on the DLA. Below is a summary of their comments:* *•All expressed support for the whitewater releases proposed in the DLA, timed so they do not conflict with other releases, and providing flow information online.* *•One boater recommended having the two releases on consecutive days.*	NSPW appreciates support for the proposed whitewater releases and planned online flow information. NSPW avoided releases on two consecutive days to minimize reservoir fluctuation due to the releases to avoid conflicts with other users and environmental impacts. NSPW plans to conduct releases on the weekend early in the day so the water may be utilized downstream of the Gile and at the Saxon Falls Project on the same day. One release is planned for the fall season. Although the recreational boating season generally ends with the Labor Day weekend, the fall brings other water users such as waterfowl hunters and anglers. Furthermore,

#	Entity, Date	Comment	NSPW Response
		•*One boater recommended releases take place on a Saturday or Sunday early in the day.* •*One boater recommended additional releases in the fall if water is available.* •*One boater recommended improvements to the access site below the Gile Flowage and at the Saxon Falls Put-In Sites.* •*One boater recommended the implementation of a recreation plan for all NSPW lands around the reservoir*.	the overall purpose of the project is to provide water storage for downstream power generation and additional whitewater releases would reduce the amount of storage available for use during the low flow winter months. Please see NSPW's response to FOG's Comment #16 regarding Gile tailwater access. The Saxon Falls Project is undergoing a separate licensing proceeding and any comments regarding the put in site should be filed in the appropriate docket (P-2610). In Section 3.8.3 of the FLA, NSPW has proposed improvements to the canoe portage, the only recreation site under its control. NSPW further proposes to develop a Whitewater Recreation Plan and Island Management Plan. These measures are sufficient to provide public recreational access within the Project boundary. No reservoir recreation plan is necessary.