

APPENDIX E-45

Michigan SCORP



Michigan Statewide Comprehensive Outdoor Recreation Plan



2018–2022



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Table of Contents

Executive Summary	4
Chapter One. Introduction	6
Chapter Two. Goal and Objectives of the SCORP	15
Chapter Three. Key Outdoor Recreation Strategies	17
Objective One: Foster Stewardship and Conservation	18
Objective Two: Improve Collaboration	20
Objective Three: Raise Awareness	22
Objective Four: Improve Recreational Access	24
Objective Five: Provide Quality Experiences	27
Objective Six: Enhance Health Benefits	29
Objective Seven: Enhance Prosperity.....	31
Chapter Four. Public Engagement Process	33
Chapter Five. Michigan Wetlands and Outdoor Recreation	35
Chapter Six. Summary and Conclusions	40
References	42
Appendix A. Michigan Department of Natural Resources Recreation Lands	46
Appendix B. Summary of SCORP Public Opinion Survey	52
Appendix C. The Role of Outdoor Recreation in Advancing Michigan’s Economy	66
Appendix D. SCORP Development Team	73
Appendix E. Summary of SCORP Community Conversations	75
Appendix F. Summary of Public Input on Draft SCORP	78



Executive Summary

Overview

Michigan offers a wide range of outdoor recreation activities, from the traditional (e.g., camping, hunting, hiking, cycling, fishing, photography, birdwatching, snowmobiling, and off-road vehicle [ORV] riding) to activities that are seeing significant gains in national participation (e.g., adventure racing, kayak fishing, cross-country skiing, fat-tire biking, standup paddling, and other silent sports and backcountry activities) (Outdoor Foundation 2017). Recreation opportunities can be found in the hundreds of state-owned parks, recreation areas, forests, campgrounds, and trails. Additionally, thousands of community playgrounds, parks, trails, nature preserves, beaches, and more than 30 federally owned parks, lakeshores, heritage/historic areas, scenic trails, forests, wilderness areas, wildlife refuges, and marine sanctuaries provide ample recreation opportunities. Some of these facilities are highly developed with modern infrastructure, and others are more natural, remote places. They are located all over the state, in rural communities as well as in the heart of some of our urban centers. Every community in Michigan is within 50 miles of a state park or recreation area, and even closer to numerous local and regional parks or recreation spaces.

All of these resources play an important role in Michigan's expansive outdoor recreation system, both individually and collectively. They provide numerous social, health, economic, and environmental benefits and are places that continue to attract residents and out-of-state visitors alike.



Statewide Comprehensive Outdoor Recreation Plan

Michigan's outdoor recreation can be used in a variety of ways to achieve a range of community goals. It is important to understand how people are recreating outdoors in order to identify preferences and the potential future direction of outdoor activity in Michigan. Michigan's Statewide Comprehensive Outdoor Recreation Plan (SCORP) is a five-year strategic plan that shapes investment by the State of Michigan and local communities in priority outdoor recreation infrastructure and programming. It is designed to evaluate ongoing and emerging outdoor recreation trends, needs, and issues, and establish priority strategies for achieving outdoor recreation goals. The state and its local outdoor recreation partners utilize the SCORP as an ongoing framework and action plan for guiding their outdoor recreation management and policy decisions. The SCORP is designed to be broad—serving as a guide for all outdoor recreation activities and communities throughout Michigan. It is flexible to allow for collaboration and strategic partnerships, to be adaptable to changing needs, and to be open to new ideas and strategies.

In developing the 2018–2022 SCORP update, the Michigan Department of Natural Resources (MDNR) undertook a variety of efforts to engage the public, recreation providers, nonprofit organizations, user groups, and recreation businesses in identifying key recreational assets, priorities, and strategies for the coming five years. These stakeholders provided significant direction on how the state and local communities could better collaborate to approach management of Michigan's entire system of outdoor recreation spaces. The SCORP was also reviewed through a public comment period. Input provided through this process ranged from requests for additional maps to changing how the survey results were reported. In each case, authors carefully weighed the input received

against the overall plan objectives and made adjustments where possible. Many of the stakeholders engaged in the development of the plan will also be active partners in implementing the objectives and strategies identified in the SCORP.

The overarching goal for the 2018–2022 SCORP is to:

Protect and manage Michigan's diverse and abundant natural and cultural assets to provide relevant, quality experiences that meet the fun, relaxation, and health needs of Michigan's residents and visitors and support economic prosperity.

This goal is best achieved by meeting the following objectives:

- **Foster stewardship and conservation:** Natural and cultural resources are protected and residents and visitors are effective stewards of those resources.
- **Improve collaboration:** Outdoor recreation stakeholders collaborate and cooperate to ensure that Michigan's recreation system meets the needs of residents and visitors.
- **Raise awareness:** Residents and visitors are aware of the variety of outdoor recreation opportunities in Michigan and have access to relevant information to connect with these opportunities.
- **Improve recreational access:** Recreation opportunities are connected and accessible to residents and visitors of all backgrounds, abilities, means, and geographic locations.
- **Provide quality experiences:** Michigan's outdoor recreation system provides users with quality

experiences in balance with resource management and conservation.

- **Enhance health benefits:** Outdoor recreation increases physical activity and the health of Michigan's residents and visitors.
- **Enhance prosperity:** Outdoor recreation advances economic prosperity and supports a high quality of life as well as talent retention in Michigan's communities.

Each of these objectives is critical to helping Michigan achieve its goal for outdoor recreation and are not presented in priority order. By promoting stewardship and conservation, natural resource management will continue to be a priority for the state's residents and visitors regardless of where they live or what outdoor recreation activities they prefer. Drawing on our collective stewardship, we can collaborate and cooperate to improve and enhance relevant outdoor recreation opportunities for all Michiganders and tourists by helping raise awareness of new and existing recreation opportunities and improve recreational access to provide quality experiences for everyone. Working toward these objectives, we will enhance the health of our residents and visitors and support Michigan's economic prosperity. The state supports these efforts through a variety of grant programs as well as staff and other resources.



Chapter One. **Introduction**



SCORP: Process and Purpose

Michigan's Statewide Comprehensive Outdoor Recreation Plan is a five-year strategic plan that directs state and local investment in priority outdoor recreation infrastructure and programming. It evaluates ongoing and emerging outdoor recreation trends, needs, and issues, and establishes priority strategies for achieving outdoor recreation goals. The SCORP is a living framework and action plan that is used by the state and its local outdoor recreation partners to guide outdoor recreation management and policy decisions.

Developing a five-year SCORP also makes Michigan eligible for U.S. National Park Service support through the Land and Water Conservation Fund (LWCF). The MDNR is the agency authorized to represent the state with regard to the LWCF program. These funds are critical for the renovation and development of state and local park and recreation infrastructure that meets the needs of Michiganders and tourists.

Michigan's Outdoor Recreation System

Michigan has world-class recreation assets. Our Great Lakes, inland lakes, rivers and streams, forests, and other natural and cultural resources provide an unparalleled foundation to support outdoor recreation. Throughout Michigan's Upper and Lower Peninsulas there are over 8 million acres of public land, which is among the highest of states east of the Mississippi and nationally. Of this land, the MDNR holds over 4.6 million acres in public trust in state forests, state game areas, recreation areas, and state parks that are managed for a wide array of purposes, including recreation, sustainable forestry, mineral access, and wildlife populations. The Great Lakes define our geography—Michigan has more shoreline than any state other than Alaska and the most freshwater shoreline in

the country—but more importantly, our water resources help define the character of our state. These assets provide federal, state, regional, local, nonprofit, and private recreation stakeholders with the foundation for our state's outdoor recreation portfolio.

Michigan is home to 103 state park and recreation areas, covering 306,000 acres with 13,496 campsites in 142 campgrounds.

These state parks and recreation areas offer a range of activities from the traditional (e.g., camping, hunting, hiking, cycling, fishing, photography, birdwatching, snowmobiling, and ORV riding) to the new and emerging (e.g., adventure racing, kayak fishing, cross-country skiing, fat-tire biking, standup paddling, and other silent sports and backcountry activities) (Outdoor Foundation 2017). There are also four state forests encompassing over 3.8 million acres of land that are managed for resource protection, natural resource-based economic activity, and recreation. The MDNR also manages 400,000 acres in 70 state game areas, which are managed to provide conservation and wildlife-based recreation opportunities and are predominately located in the southern portion of the state. A Blue Ribbon Advisory Group issued a report in 2016 regarding the management of southern State Game Areas that will help guide recreational uses in these areas.

Michigan is home to two of the nation's four National Lakeshores—Pictured Rocks and Sleeping Bear Dunes. The National Parks Service also manages Isle Royale National Park, Keweenaw National Historical Park, the River Raisin National Battlefield Park, and the MotorCities National Heritage Area. These national treasures share with the public the chance to connect with our natural

Throughout the state, mountain biking continues to grow with more trails being developed and more people participating in the sport. Copper Harbor and Marquette have been recognized as being among the best mountain biking hubs in the world by the International Mountain Bicycling Association.

world and cultural heritage, and in 2016, they drew 2.6 million visitors (National Park Service 2017).

Michigan is the third in the nation for boater registrations, and the MDNR operates many access points and amenities for boaters. There are 19 state harbors on the Great Lakes and connecting waterways, 64 local community harbors that were developed with the assistance of MDNR grant funding, and 13 harbors of refuge. Among these assets, there are 6,351 slips and two state locks. Throughout Michigan, there are 1,100 developed public boat access sites, offering boaters and anglers access to lakes, rivers, and streams.

Some of these recreation areas are highly developed with modern infrastructures, and others are more natural, remote places. These public lands are located all over the state, both in rural communities and in the heart of some of our urban centers. Every community in Michigan is within 50 miles of a state park or recreation area, and even



closer to numerous local and regional parks, trails, or other recreation spaces. See Appendix A for maps of Michigan's state parks, recreation areas, game areas, and state forests. The MDNR, through its Parks and Recreation Division, operates an exceptional trail system that is comprised of more than 12,500 miles of hiking, multi-use, equestrian, ORV, and snowmobiling trails. This includes over 2,700 miles of rail trails connecting Michigan communities with convenient and healthy recreation opportunities. There are over 1,300 miles of equestrian trails, including the 300-mile Shore-to-Shore trail. There are also 1,400 miles of biking trails and 4,000 miles of hiking trails. For motorized trail enthusiasts, there are over 3,600 miles of designated ORV

trails and 6,200 miles of designated snowmobile trails. In addition, local recreation providers offer many miles of additional trails in Michigan.

In 2016, the state legislature passed Public Act 288, which directed the MDNR to open most state forest roads in the northern Lower Peninsula to ORV use. The MDNR is in the process of reviewing, in detail, which lands and roads will be open to ORV use, evaluating potential environmental and resource impacts, proximity to private land, user safety, potential user conflicts, management plans, and public access impacts, among other criteria. The MDNR will complete its road access plan for the northern

Lower Peninsula by the end of 2017. The southern Lower Peninsula and the Upper Peninsula road access plans will be completed by 2018.

Michigan is also working towards completion of the signature Iron Belle Trail, where there are 793 miles for biking (60 percent complete) and 1,223 hiking miles (72 percent complete). When complete, the Iron Belle Trail will offer two routes from Belle Isle in Detroit to Ironwood in the Upper Peninsula. The multistate North Country National Scenic Trail runs through Michigan's Lower and Upper Peninsulas. It is the longest national scenic trail in the United States and connects us to our neighboring Great Lakes and midwestern neighbors.

Protecting Michigan's cultural resources are also part of the MDNR's mission. The Parks and Recreation Division has recorded 805 archaeological sites, 363 historic structures, and 46,000 acres of Natural Areas, which protect native ecosystems.

Michigan's outdoor recreation system is also made up of thousands of community playgrounds, parks, greenways, trails, nature preserves, and beaches, as well as more than 30 national parks, lakeshores, heritage/historic areas, scenic trails, forests, wilderness areas, wildlife refuges, and marine sanctuaries. These local, federal, nonprofit, and private-sector parks and recreation areas enrich the system by also offering a broad diversity of recreational opportunities both close to home and as destination locations. All of these resources are important parts of Michigan's expansive outdoor recreation system, both individually and collectively.

Recreation Trends

Participation in outdoor recreation at the national level has remained steady and even increased slightly (Outdoor Foundation 2017; Cordell 2012). According to the Outdoor Foundation (2017), which tracks annual outdoor recreation trends, almost 50 percent of all Americans age six and older participated in some type of outdoor recreation activity over the last decade. The Outdoor Foundation estimates that participation in recreation is even higher for Michigan, with 63 percent of residents participating yearly (Outdoor Industry Association 2017b).¹

How we recreate outdoors has changed over time, with some outdoor recreation activities growing in popularity and/or participation and others seeing a decline. Nationally, the more traditional activities such as camping and fishing that dominated outdoor activity in the mid-20th century have declined since the 1990s because of changes in lifestyles, technology, information, and time (Outdoor Foundation 2016; Cordell et al. 2008; Cordell et al. 2009). Nature-based and backcountry recreation activities (such as hiking, backpacking, and kayaking) have all seen growth since the early 2000s. In recent years, the highest rates of increase in participation nationally have occurred in the stand-up paddling, cross-country skiing, and BMX-bicycling categories (Outdoor Foundation 2017). Passive outdoor recreation in the form of picnicking, kite flying, lunch outdoors, or unstructured play time is still among the most frequently noted in surveys, with the average number of days participating in any of these activities ranging from 37 (people who do not identify themselves as an outdoor recreation participant) to 57 (people who identify themselves as an outdoor recreation participant) (Outdoor Foundation 2011). Nationwide, 21 percent of

users participate in outdoor recreation two or more days per week, and an additional 14 percent participated at least one or more day per week (Outdoor Foundation 2016).

In evaluating outdoor recreation trends, and utilizing this information for management decisions, it is important to understand the overall magnitude of participation. Walking for pleasure, for example, averaged over 200 million participants nationally between 2005 and 2009, based on the U.S. Forest Service's 2005–2009 National Survey on Recreation and the Environment, which is almost 25 million more participants than in the next-highest category, gathering with family and friends. Viewing and photographing fish, birds, and other wildlife now has more participants (over 265 million) than hunting and fishing combined (over 164 million) (Cordell 2012).

In Michigan, outdoor recreation continues to be an important and popular activity for residents and visitors of our state. The continued success of Michigan's Recreation Passport program demonstrates increased outdoor recreation participation rates at state facilities. The Recreation Passport, introduced in 2011, gains vehicles access to state parks, state forest campgrounds, trailheads, and state boat launches for an annual fee. The funding derived from the sales supports the state's recreation system. The MDNR and secretary of state data shows that in 2012, 27.34 percent of people registering vehicles purchased a Recreation Passport—in 2016, this increased to 31.85 percent.

The MDNR also tracks the number of day-use and camping visits at all of its state parks in order to track user trends over time and plan for staffing needs. Between 2014 and 2016, park visits grew from 19.4 million to 27.5 million, representing a 41 percent increase in visitations.

significant portion of higher participation rates can be attributed to the addition of Belle Isle Park to the state's portfolio of recreation assets. Visitation rates show that Belle Isle Park attracted 4.1 million visitors in 2016, accounting for about 15 percent of all visits to state parks and recreation areas, making it the most-visited state park in the nation. Within the same period, camping nights at state facilities increased by approximately 20 percent.



¹ This recreation rate differs from the rate estimated through the SCORP survey process (79 percent participation) due to a differing methodology and definition of what constitutes outdoor recreation; however, both indicate a high participation rate in Michigan.



While total outdoor recreation rates appear to be up in Michigan, the activities in which people participate continues to change. Participation in hunting of any kind continues to decline. Between, 2012 and 2016, the number of people purchasing a hunting license declined by 10 percent. The number of people purchasing fishing licenses remained relatively consistent within the same period. To better understand Michiganders' participation rates and preferences regarding outdoor recreation, Public Sector Consultants conducted a public opinion survey, which found:

- Eight out of ten Michigan residents feel that outdoor recreation is very important or moderately important to their household.
- Three out of five of Michigan's black or African-American and Hispanic, Latino- or Spanish-origin residents participate in outdoor recreation, compared to over four out of five white, non-Hispanics.
- Those aged 25–34 and 45–54 had the highest rates of outdoor recreation participation (around nine out of ten people).
- More than three-quarters of respondents are satisfied or very satisfied with the amount and quality of outdoor recreation in Michigan (around 84 and 82 percent, respectively).
- Just under three-quarters of respondents are satisfied or very satisfied with the amount and quality of outdoor recreation within a half hour of their home (73 percent and 74 percent, respectively).
- One out of five of Michigan's black or African-American; Hispanic, Latino- or Spanish-origin; or any other non-white race residents are dissatisfied or very dissatisfied with the amount of outdoor recreation within a half hour of their home, compared to only one out of ten white, non-Hispanic residents that are dissatisfied or very dissatisfied.
- One out of five of Michigan's black or African-American residents are dissatisfied or very dissatisfied with the quality of outdoor recreation within a half hour of their home, compared to less than one out of ten white, non-Hispanic and Hispanic, Latino- or Spanish-origin residents that are dissatisfied or very dissatisfied. Walking outdoors, including dog walking, was identified by 26 percent of users as the most important outdoor activity to them.
- Nearly half of people who camp or hunt are willing to travel more than six hours, on average, to participate in these activities.
- Over 89 percent of Michigan outdoor recreation users went outside 52 or more days in the year for outdoor recreation of any type, with nearly 60 percent doing so for more than 100 days. This compares to only 48 percent of adults aged 25 and older at the national level (although dog walking was not included as an outdoor recreation activity) (Outdoor Foundation 2016).
- Most outdoor recreation users utilize recommendations from family and friends (68 percent, an increase from 59 percent in 2012), followed by Internet searches (55 percent) or previous experience with a location (54 percent) to plan for their outdoor recreation activities.
- Household members under the age of 18 also participated in outdoor recreation, with visiting parks or playgrounds (85 percent), swimming outdoors (76 percent) and sledding or tubing (54 percent) having the most participants.

This year's survey was modified from its previous version in 2012 to ask direct questions about 34 specific activities. The 2012 survey question was open ended and resulted in respondents listing only a few outdoor recreation activities, possibly those that are the most important to them, and omitting others. Due to the change in how this question was asked, direct comparisons of participation rates for specific activities cannot be made between the 2012 and 2017 citizen surveys. There are a few exceptions, which are noted in Appendix B.

Exhibit 1 shows the top outdoor recreation activities, according to the percent of the population participating, in Michigan, along with total participant days, identified by survey participants.² Also included at the bottom of the table are the total participation rates for biking of any kind, camping of any kind, and hunting of any kind. The survey was modified to obtain days of participation for future use in an economic contribution analysis. It should be noted that some of these participation rates are higher than other data would suggest (such as percent of the population that purchases hunting licenses per year being lower than the participation rate of survey respondents), and many of these activities may be engaged in at the same time. Participation rates should be adjusted based on known and verifiable data before an economic contribution analysis is conducted. Appendix B provides a detailed summary of the public opinion survey and the methodology used to estimate the total participant days.

Exhibit I. Top Outdoor Recreation Activities, by Percent Participation

Activity	Total Participant Days	Participation Rate
Relaxing outdoors	436,642,901	75%
Walking outdoors, including dog walking	576,132,624	74%
Visiting parks or playgrounds	150,420,905	67%
Sightseeing and/or driving for pleasure	200,974,504	64%
Visiting nature centers or historic sites	36,465,987	56%
Swimming outdoors	99,130,632	54%
Picnicking	58,330,039	53%
Fishing	77,266,345	41%
Team or individual sports outdoors	84,751,341	37%
Wildlife viewing and/or photography (including birding)	108,373,278	36%
Hiking/backpacking	48,025,953	34%
Jogging/running	137,149,463	34%
Canoeing, kayaking, stand-up paddle boarding, or wind surfing	26,960,187	32%
Road biking	68,469,091	31%
Motor boating	49,747,531	31%
Sledding/tubing	23,677,874	30%
Tent or rustic camping	28,629,569	30%
Shooting sports (including archery)	52,810,204	30%
Modern or RV camping	40,259,553	25%
*Biking of any kind (road or off road)	N/A	40%
*Camping of any kind (modern, RV, tent, or rustic)	N/A	39%
*Hunting of any kind (big game, waterfowl, upland, or small game)	N/A	20%

Note: Due to different methodology, these participation rates cannot be compared directly to the 2012 SCORP survey.

*Denotes an activity in which multiple response categories were combined into a single figure.

Source: Public Sector Consultants conducted a statewide recreation telephone survey of Michigan residents on behalf of the Michigan Department of Natural Resources, April–May 2017.

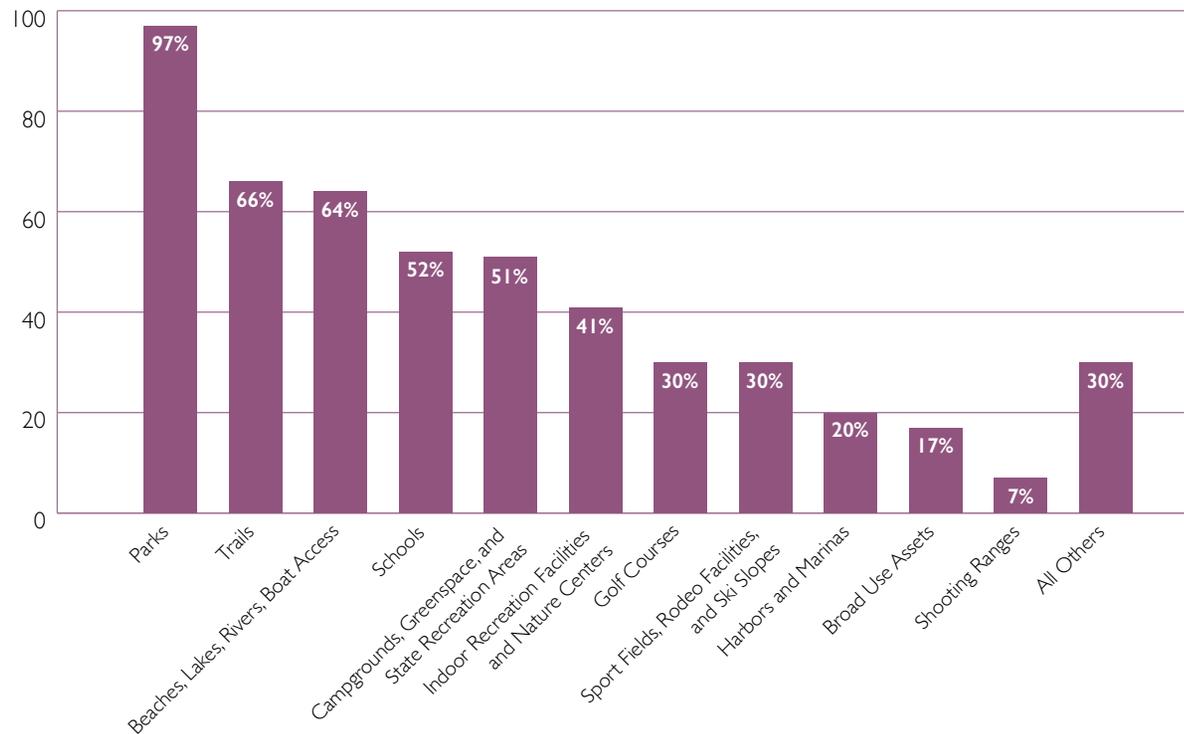
² Participant days were calculated by extrapolating out the average number of participant days from survey respondents to the general population based on participation rate.

Local Plans

During 2016, the MDNR collected and analyzed all electronically available local five-year recreation plans to examine how recreation and natural resources are addressed and incorporated into local plans. In total, 200 recreation plans were collected and examined. The plans come from every region of the state and cover nearly 4.6 million Michigan residents. Nearly all provide lists of the local parks in the community (97 percent); and many specifically identify the trails (66 percent); beaches, lakes,

rivers, and boat access sites (64 percent); and forests, campgrounds, greenspace, and state recreation areas (51 percent) within their community. This information could be used to help generate combined asset maps of available recreation opportunities across the state. Exhibit 2 shows the percentage of five-year recreation plans that list information on selected assets. It should be noted that not all communities have all of the identified assets and that even those communities that do may not include itemized lists in their five-year recreation plans.

Exhibit 2. Percentage of Five-year Master Plans that Include Lists of Outdoor Recreation Assets



Source: Michigan Department of Natural Resources compiled data from 2016–2017.

“One of the major reasons many of our urban youth indicated they did not visit or recreate at our state parks, recreation areas, forests, or scenic sites was lack of awareness. They were surprised to learn how many were within two hours of their homes. They felt our recreation resources could give them a reason to get off their phones and get active.”

Gren e Dudley, Ph.D.,

President and CEO, The Youth Connection, Inc.



Key Issues Affecting Outdoor Recreation in Michigan

Michigan's system of parks and outdoor recreation areas and opportunities are key drivers of the state's prosperity. State and community investment in parks and recreation provides substantial social, health, economic, and environmental returns. While the state has abundant outdoor recreation resources and they are an important part of our history, culture, and lifestyle, there are a number of key issues that could impact provision of and participation in outdoor recreation in the coming years. Some of these issues are:

- **Demographic shifts.** In the early 2000s, Michigan was the only state in the nation to experience a decline in its state population. Since 2010, the state has shown modest population gains but continues to struggle to retain and attract young adults (Roelofs 2016). As a result, the state's population has become "older" as a whole. Michigan must focus its outdoor recreation offerings on meeting the needs of these changing demographics and utilize outdoor recreation opportunities to attract residents to the state and retain them.
- **Long-term economic changes.** Michigan suffered significant economic decline and turbulence in the late 1990s and early 2000s, particularly related to the decline

of the automotive industry. For example, between 1999, and 2009, an estimated 800,000 manufacturing jobs were lost (Scorsone and Zin 2010). This economic change may have encouraged an exodus of established residents from Michigan, resulting in a loss of recreation enthusiasts, a decline in discretionary income available for outdoor recreation pursuits, and a loss of revenues and dedicated funding for parks and outdoor recreation facilities because of this decline in participation. Since 2010, Michigan's economy has continued to improve; unemployment is at its lowest rate in over a decade, and the state ranks first in the Great Lakes and sixth nationally for job growth (State of Michigan 2017). In the 21st Century Economy, parks, greenspace, and access to outdoor recreation areas are critical assets and can be catalysts for building vibrant and prosperous communities that attract businesses and a talented workforce.

- **High rates of obesity and chronic disease among Michigan's population.** In addition to changes in eating habits, an increase in sedentary work and lifestyles, longer work hours, dependency on automobile transportation, and limited free time are all contributing to high rates of obesity and associated chronic disease nationwide. Michigan has the 16th highest rate of adult obesity. Currently, more than 30 percent of adults are considered obese—an increase from 22 percent in 2000 and 13 percent in 1990 (State of Obesity 2017a). Outdoor recreation could be an increasingly important part of the mechanisms for addressing these health issues by boosting people's activity level and exposure to peaceful, natural spaces.

- **Collaboration among recreation stakeholders.** When there is a lack of collaboration, it limits our ability to view outdoor recreation as a system of many partners and opportunities, each of which contribute necessary recreation infrastructure and programming elements. Increasing collaboration can maximize use of scarce resources, eliminate duplication, and increase recreation opportunities.
- **Technological innovation.** Changing technology continues to reshape our lives, including the ways we interact with each other and our environment. These changes have created both challenges and opportunities for outdoor recreation. As a society, our screen time continues to increase—our children are spending more hours indoors in front of computers, televisions, tablets, and phones, and are spending less time playing outside. But technology also can help enhance our outdoor experiences. Advancement in equipment technology can help make more areas accessible to more people. Advancement in communication and information technology can help us share and find information about outdoor recreation opportunities. Technology can also enhance our experiences by providing new ways of connecting with nature through mobile applications, such as those that provide classification indexes for birders. Technology may also create opportunities to help monitor and control invasive species by enabling GPS-connected reporting capabilities. These are just some of the ways that technology is changing how we interact with nature. Undoubtedly, technology will continue to evolve and change how we interact with each other and our environment, as well as how we participate in outdoor recreation.
- **Sustainable funding.** Michigan is a national leader in developing innovative funding sources to support outdoor recreation and natural resource management. Since it was created, the Michigan Natural Resource

Trust Fund has awarded over \$1 billion in grants to support the acquisition and development of lands for recreation. The establishment of the Recreation Passport decreased the cost of a state parks pass while increasing participation rates as well as revenue generated to support recreation investments. These innovative models have helped us develop our recreation infrastructure at the state and local levels; however, greater emphasis is emerging around the need for further development of mechanisms that support maintenance of existing recreation assets to ensure that they provide high-quality experiences for Michigan’s residents and visitors. For example, Michigan’s state parks system has identified over \$285 million of needed improvements to its aging facilities. Belle Isle Park, which was recently added to the state’s portfolio of recreation assets,

has an additional estimated \$300 million in capital improvement needs. Furthermore, among local park and recreation systems, sustainable funding remains a large challenge. To illustrate this point, between 2012 and 2016, the Michigan Natural Resources Trust Fund received more than 300 grant requests totaling almost \$70 million that exceeded available funding through the trust.

These issues impact people’s participation in outdoor recreation, and shape the quality and amount of recreation opportunities provided in Michigan. The challenges in this process, however, have helped to shape the state’s goal and objectives for the 2018–2022 SCORP.





Chapter Two. **Goal and Objectives of the SCORP**



Outdoor recreation provides many benefits to Michigan's residents and its economy, and is a critical part of our history and culture, health and well-being, and overall prosperity. The recreation and demographic trends and key issues described in chapter one demonstrate the need for a robust, comprehensive, and high-quality outdoor recreation system in Michigan.

To address these issues, the state has one overarching goal for its outdoor recreation efforts in the next five years:

Protect and manage Michigan's diverse and abundant natural and cultural assets to provide relevant, quality experiences that meet the fun, relaxation, and health needs of Michigan's residents and visitors and support economic prosperity.

This goal is best achieved by meeting the following objectives:

- **Foster stewardship and conservation:** Natural and cultural resources are protected and residents and visitors are effective stewards of those resources.
- **Improve collaboration:** Outdoor recreation stakeholders collaborate and cooperate to ensure that Michigan's recreation system meets the needs of residents and visitors.
- **Raise awareness:** Residents and visitors are aware of the variety of outdoor recreation opportunities in Michigan and have access to relevant information to connect with these opportunities.
- **Improve recreational access:** Recreation opportunities are connected and accessible to residents and visitors of all backgrounds, abilities, means, and geographic locations.

- **Provide quality experiences:** Michigan's outdoor recreation system provides users with quality experiences in balance with resource management and conservation.
- **Enhance health benefits:** Outdoor recreation increases physical activity and the health of Michigan's residents and visitors.
- **Enhance prosperity:** Outdoor recreation advances economic prosperity and supports a high quality of life as well as talent retention in Michigan's communities.

Each of these objectives is critical to helping Michigan achieve its goal for outdoor recreation and are not presented in a priority order. By fostering stewardship and conservation, natural resource management will continue to be a priority for the state's residents and visitors regardless of where they live or what outdoor recreation activities they prefer. Drawing on our collective stewardship, we can collaborate and cooperate to improve outdoor recreation for all residents and visitors by helping raise awareness of new and existing recreation opportunities and improving recreational access to provide quality experiences for everyone. Working toward these objectives, we will enhance the health of our residents and visitors and support Michigan's economic prosperity. The state supports these efforts through a variety of grant programs as well as staff and other resources.

These objectives will help the state determine priorities for LWCF funding. Through an extensive public engagement process, the SCORP committee received input from stakeholders throughout the state about their vision and priorities for outdoor recreation. The following chapters outline how the state, in partnership with local and regional recreation stakeholders, can meet the goal and objectives for outdoor recreation over the next five years. Each action item, unless indicated otherwise, identifies the role the state should play in achieving the objectives.





Chapter Three. **Key Outdoor Recreation Strategies**



Objective One: Foster Stewardship and Conservation

Natural and cultural resources are protected and residents and visitors are effective stewards of those resources.

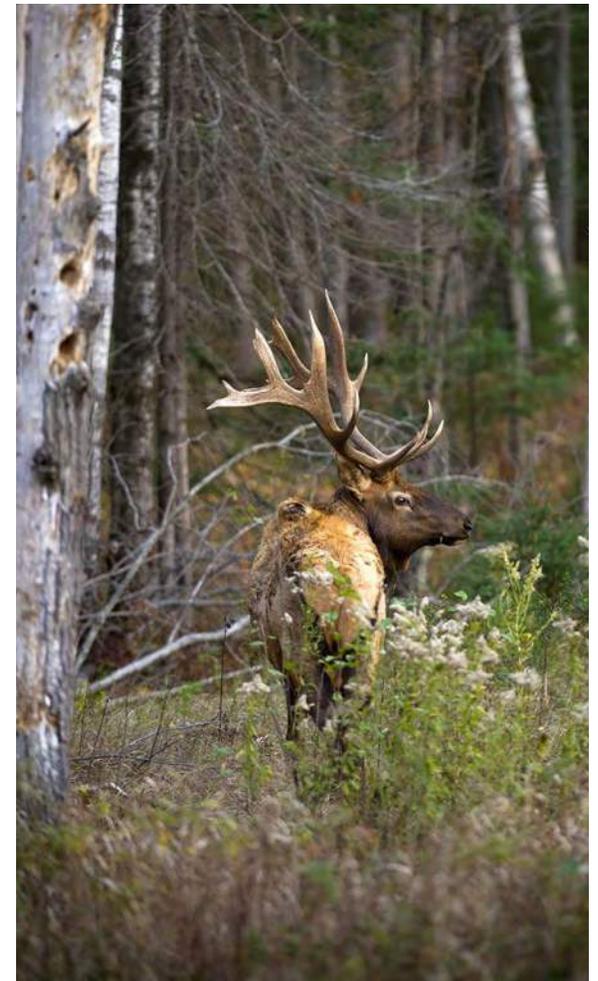
Why Is This Important?

Many of Michigan's most popular outdoor recreation activities are closely tied to high-quality natural and cultural resources. State parks protect our natural and cultural treasures, such as sand dunes, forests, petroglyphs, and wetlands. The state's streams attract anglers from around the world; healthy forest lands support a substantial population of hunters, wildlife viewers, photographers, hikers, and campers; and numerous high-quality lakes and rivers support boaters, kayakers, canoeists, and swimmers. The state's public lands also serve as an important part of the natural resource economy, including sustainable forestry and other resource-driven industries. State forest lands, in particular, are managed for multiple, purposes, including timber harvest, wildlife, and recreation.

Michigan is the Great Lakes State, which provides us great opportunity and responsibility as stewards of the world's largest freshwater system. For the first time, Michigan developed a comprehensive vision for the management, protection, and restoration of our water resources as part of the *Sustaining Michigan's Water Heritage: A Strategy for the Next Generation* report, which helps guide the investments and actions regarding water resources.

Compared to many other states, Michigan is blessed with diverse and valuable natural and cultural resources which must be protected, managed, and restored to maintain a backdrop for a broad system of outdoor recreation that attracts residents and tourists. These resources not only provide many different types of active recreation, but also offer places for quiet, peaceful time where people can escape the noise and chaos of everyday life. The addition of interpretive resources creates immersive experiences that strengthen and deepen connections to places and activities. Research shows that spending time in natural areas or green environments and having opportunities

to view and experience nature can help reduce stress, depression, anxiety, attention deficit and hyperactivity, and exhaustion (de Vries et al. 2003). It is also important to find more ways to expose people to nature, wildlife, and other cultural assets and interpret these resources to increase people's appreciation for and stewardship of these natural treasures.



What Are the Key Actions for Addressing This Objective?

- Continue to integrate recreation planning into state and local natural resource and land management planning efforts to ensure that recreation plays a role in the state's broader effort to protect and manage natural and cultural resources.
- Support and create opportunities to enhance stewardship through interpretation and programming.
- Manage recreational access to be sensitive to maintaining the quality of our natural resources.
- Create opportunities for residents and tourists to experience outdoor recreation that introduces them to, and allows them to continually experience, Michigan's natural and cultural resources. Incorporate natural and cultural resource appreciation, education, and stewardship concepts into park and recreation programming where possible.
- Integrate opportunities for natural and cultural resource protection and management into development of new or improvement of existing park and outdoor recreation facilities throughout the state.
- Continue serving as a facilitator, collaborator, and leader with local and regional organizations to prevent introductions of invasive species, minimize the spread of existing populations, and respond to and control high-priority species in recreation areas.
- Implement citizen science programs to educate and increase awareness among users to prevent and detect invasive species, as well as to connect residents and visitors with local control resources on recreational lands, lakes, and streams.
- Create and support opportunities to partner with youth and educational organizations to support stewardship and conservation activities.
- Provide heritage interpretive guidance for recreation partners through a heritage trails website, the Native

American Heritage Master Plan developed under Act 247 of 2016, and provide continuing consultation services on heritage interpretation in outdoor recreation planning.

- Recreation providers should embrace environmentally sustainable design and management practices, such as the use of green infrastructure and wetlands to manage stormwater and trails to serve as wildlife corridors or pollinator refugia.

How Will Michigan Measure Success in Meeting This Objective?

The MDNR and other partners monitor habitat cover and conduct fish and wildlife population surveys throughout the state. These surveys provide current status and trends on the health of Michigan's natural resources. If fish and wildlife populations are healthy, we can make assumptions about the quality and quantity of habitat supporting those populations and vice versa. Given the strong connection between natural resources and recreation opportunities, one way the achievement of this objective will be measured is by how well Michigan is managing important recreation-supporting natural and cultural resources, demonstrated through trends in wildlife surveys, fish creel surveys, annual bird counts, and state wetlands inventories. Furthermore, this objective can be measured by the prevalence of invasive species within our recreation areas.

Another way this objective will be measured is by how widely programs are available that educate people about the function and importance of natural resources and create lifelong natural resource stewards. The MDNR, in cooperation with local communities, volunteers, and school programs, offers several programs that help expose people to the joys and benefits of outdoor recreation. Success in achieving this objective will be measured by the number of local park and recreation departments offering these programs and the number of people participating.

“A person's conservation ethic begins with their connection to nature. If we compel people to engage in the natural environment through recreation, one cannot help but be overcome by the awesome responsibility to conserve, protect, and enhance our natural resources for future generations.”

Dan Eichinger

Executive Director,
Michigan United Conservation Clubs

Objective Two: Improve Collaboration

Outdoor recreation stakeholders collaborate and cooperate to ensure that Michigan's recreation system meets the needs of residents and visitors.

Why Is This Important?

State parks, recreation areas, wildlife areas, and forests are just a part of the overall outdoor recreation system in Michigan. Local and regional park systems, schools, conservancies and other nonprofits, as well as the private sector all offer a broad range of recreational opportunities throughout the state.

For years, park and recreation stakeholders have talked about the need for greater collaboration on the provision of their services, but taking proactive steps to collaborate and coordinate their efforts remains challenging. While there are several notable outdoor recreation partnerships in the state, these are frequently the exception rather than the rule.

Greater collaboration and cooperation is often cited as a mechanism for increasing efficiencies, saving on costs, and increasing opportunities. While these are important benefits, there are many additional reasons to increase and improve collaboration. One of the most important is that the public does not see its recreation options, needs, and priorities from an owner or jurisdictional perspective. Those who participate in recreation want a wide range of opportunities in their communities and as travel destinations. The public does not generally care who or what entity provides the service as long as it is high quality, convenient, and meets their needs. This suggests that recreation practitioners need to find better ways to provide and market outdoor recreation opportunities as seamlessly as possible. This will not only allow for unified messaging regarding outdoor recreation benefits, but will enable recreation providers to collectively meet recreation needs as opposed to any one provider trying to meet all of the recreation demands of a community.

Another key reason to improve collaboration and cooperation is that funding for outdoor recreation continues to be relatively flat, but the demand for an

ever-widening range in the types of recreational facilities continues to grow. This means that Michigan must approach delivery of its recreation offerings as a single system, and collaborate to meet needs, address gaps, and reduce redundancy or underutilized infrastructure as much as possible. Cooperation among recreation providers is the best means of achieving this.

The Southeast Michigan Council of Governments developed a Web-based park finder that provides a one-stop shop for information about outdoor recreation activities in Livingston, Macomb, Monroe, Oakland, St. Clair, Washtenaw, and Wayne Counties. The site includes over 2,600 parks and recreation areas maintained by federal, state, regional, county, local, nonprofit, and private organizations. Through the site, users can search for recreation activities throughout the region and close to home.

Find out more at:

<https://maps.semcog.org/ParkFinder/#>

What Are the Key Actions for Addressing This Objective?

- Community five-year recreation plans should foster collaboration among recreation providers, encourage strategic regional recreation investments, develop linkages between neighboring recreational systems, encourage placemaking, and identify where regional data gathering to assist in planning would be effective.
- Serve as a liaison for youth and adult representatives of multiple user groups (e.g., cycling, hiking, equestrian, motorized trail users, paddle sports, etc.) to identify opportunities for enhanced collaboration and to serve as a forum to evaluate differing priorities for recreation management.
- Serve as a facilitator, collaborator, liaison, and leader with other recreation providers and stakeholders to explore the feasibility of coordinated delivery of recreation opportunities at a regional level.
- Serve as a facilitator, collaborator, liaison, and leader with other recreation providers and stakeholders to conduct regional recreation asset inventories and gap assessments to identify opportunities to enhance regional collaboration, marketing, and strategic recreation investments.
- Local government agencies, MDNR, the Michigan Department of Transportation, and the Michigan Department of Environmental Quality (MDEQ) should collaborate to integrate parks, trails, and outdoor recreation facilities' needs into other infrastructure investment plans (e.g., roads, water and wastewater infrastructure, and wetlands preservation and mitigation) in order to leverage resources and opportunities.
- Continue to recognize and reward collaboration and cooperation in grant funding decisions, utilizing sources such as Michigan Natural Resources Trust Fund, Land and Water Conservation Fund, the Forest Legacy Program, and other sources.

- Enhance and expand partnerships with friends or other volunteer groups to help maintain and improve outdoor recreational facilities. Provide training and resources for appropriate MDNR staff members, and other stakeholders to develop and support these volunteer groups.

How Will Michigan Measure Success in Meeting This Objective?

As part of the SCORP update, the state conducts a randomized survey of residents to obtain data on their recreation activities and input on their views regarding the quality and quantity of outdoor recreation resources available in Michigan. As state and local recreation providers better collaborate to improve outdoor recreation and expand people's awareness of the opportunities, there should be a corresponding increase in people's knowledge of the quantity of Michigan's outdoor recreation resources. Success in achieving this objective will be measured by whether there is an increase in the number of people who answer, *very satisfied* or *satisfied* to questions about the amount and quality of outdoor recreation.

Since 2007, the percentage of residents who are *very satisfied* with the quantity of public outdoor recreation in Michigan has been increasing, from 70 percent in 2007, to 79 percent in 2012, and now 84 percent in 2017. This year, the citizen survey was expanded to include questions on residents' satisfaction with the quantity of public outdoor recreation within a half hour of their homes. An increase in local satisfaction will also be used to gauge the success of providing quality experiences.

“Identifying collaboration as a major objective in SCORP sets the standard for the industry. The future of outdoor recreation is dependent on successful collaborations across all sectors. Users expect organizations to collaborate and are empowered by and engaged in programming.”

Ann Conklin

Executive Director, mParks

“Collaboration is the key. When local government, the state, and nonprofit partners work together to acquire recreational land and develop facilities, the benefits to public recreation multiply many times.”

Thomas C. Bailey

Executive Director, Little Traverse Conservancy

Objective Three: Raise Awareness

Residents and visitors are aware of the variety of outdoor recreation opportunities in Michigan and have access to relevant information to connect with these opportunities.

Why Is This Important?

While Michigan has abundant and diverse recreational opportunities throughout the state, there are gaps in efforts to market these resources to both Michigan residents and potential out-of-state visitors. These gaps keep the state from fully leveraging all the benefits that our outdoor recreation assets could provide.

Over the last decade, the Pure Michigan campaign has made great strides in marketing the state, including its beautiful natural resources and outdoor recreation assets. A 2015 study of the tourism image of the Pure Michigan campaign found that Michigan's image as a tourism destination was strongest in comparison with other states in the Midwest from the sports and recreation perspective (Longwoods International 2016). The study found boating and water sports, sailing, fishing, and canoeing/kayaking to be among the state's top five strongest assets when compared with the national tourism market.

Beyond the Pure Michigan campaign, the MDNR has invested significant time and resources in marketing outdoor recreation opportunities to residents, particularly to new users, through programs like the Recreation 101 program, which offers a series of free introductory recreation courses in state and community parks. The purpose of the Recreation 101 program is to expose people to new recreational pursuits, and expand the number of people participating in outdoor recreation. For example, the Hook, Line, and Sinker program teaches the basics of fishing and casting at over 30 state parks and hatcheries through the summer months. The DNR has also teamed up with mParks, Blue Cross Blue Shield of Michigan, and local fitness instructors in the MI Big Green Gym program, which encourages people to become more active and aware of the state's recreation opportunities. Programs like these expose new individuals and families to outdoor recreation activities, and are helping to create lifelong recreation enthusiasts.

Continuing these efforts and expanding state and local marketing activities is a priority for the state in achieving the SCORP goal. Some of the state's greatest amenities are still not being sufficiently marketed or highlighted by state agencies and local communities, and there are opportunities for targeting marketing efforts to specific user groups and demographics to showcase outdoor recreation opportunities the state offers.

Marketing is one element in connecting people to nature, and Michigan's cultural heritage. But awareness also means outreach, including fostering understanding and support among future generations. To do so, Michigan must increase its presence in diverse and underserved communities, and develop strategies to make Michigan's assets relevant to audiences that may not traditionally participate in outdoor recreation.

New park assets like the Outdoor Adventure Center in Detroit are an investment and a strategy to ensure that visitor centers remain relevant to youth and future generations. Located on Detroit's riverfront in the historic Globe Building, with the Dequindre Cut Trail running through its backyard, the Outdoor Adventure Center gives visitors a taste of "Up North, Downtown."

However, the state's outreach assets need to do more to market these diverse assets to residents and visitors alike. For example, the state's current travel and tourism website as well as the State Parks and Recreation website does not provide users with enough detailed information on state park and recreation facilities, such as information on the style of recreation space (e.g., forested, natural campgrounds versus highly developed sites), photos that help users see what the facility is like, GIS-based maps of facilities, user reviews or posts with information and tips, or descriptions of supporting amenities in surrounding communities (e.g., lodging, dining, shopping). The travel and tourism website provides some of this information, but lacks these types of details for state park and recreation

areas, state forests, and other state-recreation-related facilities (such as boat access sites). This makes it difficult to persuade people to try new recreation activities or visit new recreation areas because they are hesitant to gamble on something they know little about.

Other states and some Michigan regions (such as Huron Shores Heritage Route and the Upper Peninsula’s Great Waters) have successfully created comprehensive online databases that showcase their parks and outdoor recreation areas, provide detailed information and images, and highlight opportunities for connecting recreation activities with other community events or places. This type of upgraded, systemwide marketing is a priority for Michigan to increase outdoor recreation participation by residents and visitors.

There are also significant opportunities to further target marketing efforts toward particular user groups that are ripe for expanded outdoor recreation participation. Focusing marketing efforts on young workers, retirees, and residents trying to improve their health could help accelerate the growth of outdoor recreation participation and help the state better capitalize on the economic and health benefits that parks and outdoor recreation provide.

What Are the Key Actions for Addressing This Objective?

- Sustain and expand the collaborative efforts that identify recreation opportunities, including tourism gateways, outreach and coordination with partners, and outdoor recreation resource marketing to increase tourism and attract talent to Michigan. Partnerships will include, but not be limited to, MDNR, Michigan Economic Development Corporation (MEDC), local recreation departments, federal land managing agencies, land conservancies, conservation and trails groups, tourism agencies, museums/historical societies, and the outdoor recreation industry or businesses.

- Continuously evaluate and develop appropriate tools to increase awareness and access to outdoor recreation opportunities utilizing relevant technology, and ensure that these tools have up-to-date and accurate information.
- The MDNR, in partnership with statewide recreation associations, and agencies, and other stakeholders should evaluate the feasibility of developing an online georeferenced database of federal, state, regional, and local parks, as well as outdoor recreation and related visitor, tourism, and cultural amenities that are helpful to recreation users.
- Develop marketing campaigns that introduce nonusers to outdoor recreation, providing relevant messaging based on specific wants, needs, and preferences of diverse groups.

How Will Michigan Measure Success in Meeting This Objective?

When this objective is achieved, Michigan residents and visitors alike will have significantly better tools and information available on parks and outdoor recreation opportunities that will help encourage greater overall participation and enable people to more easily plan their park and outdoor recreation visits. To do so, the MDNR will continue to interact with the MEDC and Pure Michigan, and participate in relevant local projects. Success in achieving this objective will be measured by the completion of a statewide online outdoor recreation information and marketing tool and an annual increase of 5 percent in the number of people visiting that website for the first two to four years after it is completed. Success will also be measured via a sustained increase over the next two to three years in the state’s social media presence. Considering the rate at which technology is developing, tools to measure success will be continuously evaluated as new technologies and information platforms emerge.

“Michigan has incredible opportunities for outdoor recreation and an expansive parks system. Making information about recreational opportunities readily accessible—whether through stronger marketing or better data and tools—is crucial to making sure that Michiganders and visitors can find the activity that suits their interests.”

Tim Ervin

Resource Development Director,
Manistee County Alliance for Economic Success

Objective Four: Improve Recreational Access

Recreation opportunities are connected and accessible to residents and visitors of all backgrounds, abilities, means, and geographic locations.

Why Is This Important?

Collectively, Michigan's portfolio of recreation assets, our national parks and federal forests, our state parks, recreation areas, forest and game lands; our regional, county, and local parks; as well as private and nonprofit recreation infrastructure must provide access to residents and visitors of all backgrounds, abilities, means, and geographic locations.

Michigan has world-class recreation assets. Our Great Lakes, inland lakes, rivers and streams, forests, and other natural resources provide an unparalleled foundation to support outdoor activity. Many of our parks and recreation areas were designed to serve as destination locations, drawing Michiganders and other tourists for weekends and extended trips. While some improvements could be made, collectively, Michigan has done well in filling this need. On a statewide basis, residents are highly satisfied in terms of both the quality and quantity of outdoor recreation (see Appendix B).

However, recreation and demographic trends are changing and the significance of providing outdoor recreation opportunities close to home is growing. Our outdoor recreation assets can help ensure that our communities are desirable places to live, enhance our economic prosperity, and support a healthy and active lifestyle for all Michiganders.

The survey of Michigan residents demonstrates differences in participation and satisfaction rates among racial and ethnic demographics and Michigan's regions. For instance:

- On a statewide basis, the number of black or African-American as well as Hispanic, Latino- or Spanish-origin residents who indicated they participated in any outdoor recreation activities was approximately 25 percent lower than white, non-Hispanic residents.
- On a statewide basis, black or African-American residents; Hispanic, Latino- or Spanish-origin residents;

and all other races other than white, non-Hispanics reported satisfaction rates of approximately 10 to 15 percent lower than white, non-Hispanic residents regarding the quality and quantity of recreation opportunities close to home.

- Black or African-American residents also reported satisfaction rates of more than 15 to 17 percent lower than white, non-Hispanic residents regarding the quality and quantity of outdoor recreation opportunities statewide. Hispanic, Latino- or Spanish-origin residents reported similar satisfaction rates to white, non-Hispanic residents for the amount of outdoor recreation, but were 11 percent less satisfied with the quality of outdoor recreation opportunities statewide.
- In the nine-county Detroit Metro region, 16 percent of residents indicated they were dissatisfied with the amount of recreation opportunities within a half hour of their home, which is 5 to 10 percent higher than other regions in the state.

These challenges are not unique to Michigan. Nationally, outdoor recreation participation rates for black or African-American as well as Hispanic, Latino- or Spanish-origin residents are lower than white, non-Hispanic residents (Outdoor Foundation 2017). Our recreation systems should provide access and meaningful outdoor recreation opportunities for all. To advance this effort we need to further evaluate the ways in which we locate and design our facilities and programming to serve all populations and user groups. The MDNR will work to embrace new, growing, or changing constituencies (e.g., age, economic status, race and ethnicity, differing levels of ability, etc.) in providing outdoor recreation opportunities.

On both a statewide and regional basis, Michigan's outdoor recreation system should provide broader access so that all visitors may participate in activities that suit their interests. A key element of providing better access for all user groups may mean that some activities are

supported in only certain areas to ensure that the quality of our natural resources is maintained and that all user groups and populations are able to find places where they can have high-quality outdoor recreation experiences.

Another key element of providing better access and increasing the use of park and recreation facilities is to connect these assets to each other and ensure that alternative transportation options exist for people to get to parks.

Trails have been identified as a priority for Michigan for several years, and there are many groups working to address the need for cross-state trails, regional connectors, and local connectors and loops.

Trails are particularly well suited to helping people increase their physical activity and utilize other recreation and community amenities. They are often designed to support some of the most popular recreation activities identified by Michiganders, including biking, walking, and hiking (see Appendix B). They are found in variety of settings, and can be located to be readily accessible and inexpensive for all people to use. Public Act 288, signed by Gov. Rick Snyder on September 28, 2016, changed rules for ORV use on state forest roads, and requires that the DNR conduct a comprehensive inventory of all of the state forest roads. The act also allows for the use of ORVs and pack and saddle animals by hunters to retrieve big game. The DNR is conducting an inventory of all state forest roads in the northern Lower Peninsula by December 31, 2017, and in the Upper Peninsula and southern Lower Peninsula by December 31, 2018. Maps showing the open roads for ORV use will be updated every year.

What Are the Key Actions for Addressing This Objective?

- Recreation investments should prioritize improvement, development, and acquisition of outdoor recreation assets within and near population centers, as well as those areas that address gaps in geographic distribution of outdoor recreation opportunities.
- Assess use rates and preferences of various demographics to evaluate barriers to participation, and develop and implement strategies to address those barriers.
- The MDNR should lead efforts to make people of all backgrounds feel welcome in outdoor recreation spaces and assess opportunities to develop interpretive resources, including historical and cultural materials targeted toward different demographic groups that focus on their stories in those landscapes and spaces.
- Recreation providers, including the MDNR, should enhance the diversity of its workforce to better reflect the state's demographics and to encourage a welcoming experience for all visitors.
- Recreation investments should embrace universal design principles and adaptive equipment that enhance recreation opportunities for residents and visitors of various levels of physical, cognitive, lingual, auditory, and financial ability. The MDNR should continue to develop pilot programs and share access options for trail users with vision and/or hearing impairment.
- Recreation investments should prioritize completion of regional or state-significant trail networks that provide recreation opportunities close to home, serve as a transportation resource, and link existing trail systems and parks with business districts.
- Continue to advance Michigan as the Trail State through collaborative improvements in land and water trail infrastructure, programming, and marketing.
- Evaluate new mechanisms to develop sustainable sources of funding for supporting trail improvements

“From our urban focus groups, we found that transportation and a lack of awareness and inclusiveness were key issues that interfered with active participation. Knowing that the parks and recreation sites are accessible to individuals who may have physical limitations or impairments, and that they are promoting inclusivity and cultural diversity, will bring more Michiganders to our incredible parks to enjoy the great outdoors.”

Grenaé Dudley, Ph.D.

President and CEO, The Youth Connection, Inc.

and maintenance in partnership with recreation and cultural stakeholders.

- Create partnerships between local recreation and transportation providers for incentive and outreach programs in order to increase people's ability to access parks and outdoor recreation facilities.
- Conduct regional assessments of trail networks, in partnership with recreation stakeholders, to identify



and develop trails that are suited for single and multiple uses and ensure that residents and tourists have opportunities to participate in a variety of outdoor recreation in a safe and enjoyable environment.

- Continue to develop, update, and manage a forest road access plan for state lands that provides residents and tourists with opportunities to explore Michigan's natural and cultural resources, while utilizing and balancing a variety of recreation means and resource needs.
- The recreation community should ensure adequate access to water-based recreation by continuing support for marina and boat launch facilities through the development of water trails and by increasing access points for canoes, kayaks, and fishing.

How Will Michigan Measure Success in Meeting This Objective?

When the above actions are implemented, it is expected that there will be significant improvements in access to recreation opportunities for all Michiganders. Furthermore, the actions will enhance connectivity between Michigan's parks and communities, and trails will be increasingly seen both as sites for recreation or tourism and a means of transportation.

Success in achieving this objective will be measured in several ways, including:

- Examining the results of the Michigan Outdoor Recreation Telephone Survey. The findings show

differences among underserved populations in outdoor recreation participation rates and satisfaction levels, which are measured by the quality and quantity of outdoor recreation opportunities at a statewide and regional level. Enhanced access for residents and visitors of all backgrounds, abilities, means, and geographic locations should result in more consistent participation and satisfaction rates.

- Monitoring increases in the number of recreation sites that implement universal design principles, the number of recreation areas accessible via public transportation, and the number of water trails developed
- Examining whether Michigan maintains its ranking as the number one Rails-to-Trails state by the Rails-to-Trails Conservancy, as well as whether Michigan is consistently recognized by media or association groups as one of the top five places for other motorized or nonmotorized trails

Objective Five: Provide Quality Experiences

Michigan's outdoor recreation system provides users with quality experiences in balance with resource management and conservation.

Why Is This Important?

Outdoor recreation is essential to Michigan. It is a driver of economic prosperity through tourism and the provision of critical assets that influence the livability and appeal of our communities. Quality outdoor recreation experiences provide a diversity of recreation opportunities that meet the fun, relaxation, and health needs of Michigan's residents and visitors. The activities in which we participate vary, but collectively our outdoor recreation infrastructure should ensure that all recreationalists can participate in and enjoy activities that are important to them, while not infringing on other user groups, or causing adverse impacts to our natural and cultural resources. The MDNR wants to work with public and private recreation providers, local governments and nonprofits, and other stakeholders to provide a variety of opportunities across the state so that residents can pursue their own interests and engage in outdoor recreation in meaningful ways.

While communities and the state must be able to acquire new parcels of land, develop new infrastructure, and redevelop existing facilities to meet changing recreational needs, we must first maintain our current infrastructure and ensure it meets residents' needs. The state owns and manages 103 state parks and recreation areas, 400,000 acres of game areas, and four state forests, with thousands more recreation assets owned by local, private, and nonprofit entities throughout the state. These facilities offer significant value in terms of their geography, history, uniqueness, and environmental, economic, and social benefit. However, many of the facilities are in need of significant upgrades and rehabilitation to improve their quality and adapt to changing user needs and demands, and some need upgrades just to make them safer for use or accessible to all residents. Since their original construction decades ago, there have been improvements in design criteria and technology that offer greater comfort, energy and water efficiency, aesthetic character, accessibility,

and safety. Newer and renovated infrastructure also helps reduce ongoing maintenance costs.

In addition to building maintenance and improvement, other infrastructure (e.g., campsites, access points, parking lots, trails and trail heads, fishing piers, and signage) needs ongoing repair and improvement. The extensive trails system managed by the state and local partners, for example, must be maintained with physical safety improvements, snow grooming, clearing of access sites, and vegetation maintenance. In the case of both ORV and snowmobile trails, users specifically pay for trail improvements through user permit fees. If these trails are not adequately maintained to meet these recreational needs, Michigan will lose this valuable sector of our recreation economy. One of the goals of the Michigan Comprehensive Trails Plan is to ensure that the existing trail system is maintained to quality standards as it is expanded. Additionally, as our trail systems face increasing and competing use, we must ensure that all users have a variety of opportunities while not infringing on those of other groups, and that all can recreate in a safe environment suitable for their desired use.

Without engaging in upgrades and design improvements that raise quality and bring all of Michigan's recreation facilities in line with current recreation user demands, the state will have difficulty attracting first-time users and will struggle to bring those that do make use of the facilities back. The state estimates a backlog of \$285 million in improvement and maintenance needs for state-owned outdoor recreation facilities, and local communities are similarly struggling to adequately fund the upkeep and improvement of their parks and recreation spaces. These needs must be continuously addressed to maintain the high quality of these facilities if they are to be key assets in Michigan's effort to improve the health, economy, and environment of our state. Balancing ongoing maintenance needs with new construction and acquisition, improvement

projects must be prioritized in terms of their ability to help the state achieve a return on investment while meeting the goal and objectives articulated in this document.

The Michigan Department of Natural Resources, along with many conservation partners, is working together to help foster the next generation of anglers and hunters through the Recruitment, Retention, Reactivation, and Relevancy (R4) initiative.

What Are the Key Actions for Addressing This Objective?

- Recreational funding sources should recognize and support the need for maintenance and improvements to existing facilities as a key element of providing quality recreational opportunities for residents and visitors.
- Recreational grant funding from the MDNR should prioritize projects that have sustainable maintenance funding plans as one of many criteria that include the size, scope, impact, and social benefits of a project.
- Collaborate with state associations and other stakeholders to develop and promote building and infrastructure guidelines for recreational facilities to help guide investment and maintenance of recreation infrastructure.
- Routinely assess traditional and developing recreation opportunities and user and tourism trends through data collection and input from stakeholders at a regional and statewide scale to prioritize investments.

How Will Michigan Measure Success in Meeting This Objective?

There is an expected relationship between the improvement and maintenance of parks and outdoor recreation facilities, and people's perception of the quality of Michigan's outdoor recreation system. Success in achieving this objective will be measured by whether there is an increase in the number of people who answer *very satisfied* to the question, "How satisfied are you with the **quality** of public outdoor recreation opportunity in Michigan?" Since 2007, the percentage of residents who are *very satisfied* with the quality of public outdoor recreation in Michigan has been increasing, from 42 percent in 2007, to 77 percent in 2012, and now 82 percent in 2017. This year, the citizen survey was expanded to include questions on residents' satisfaction with the quality of public outdoor recreation within a half hour of their homes. An increase in local satisfaction will also be used to gauge the success of providing quality experiences.

"Michigan has countless opportunities offering genuine outdoor recreation experiences to a variety of people. Whether it's losing yourself deep in the forest while foraging for mushrooms, enjoying thousands of miles of Great Lakes coastline with family, or using the state park system to teach the next generation about natural heritage, there is a place for everyone."

Lisha Ramsdell

Associate Director, Huron Pines

Objective Six: Enhance Health Benefits

Outdoor recreation increases physical activity and the health of Michigan's residents and visitors.

Why Is This Important?

Outdoor recreation provides crucial health and wellness opportunities for Michigan residents. Michigan's array of outdoor recreation facilities, settings, and programming support healthy behaviors in a variety of ways. First, they offer people opportunities to be physically active, thus helping reduce obesity and the incidence of chronic disease. Second, outdoor recreation opportunities can improve mental health by linking people to natural environments that can relieve stress levels and improve interpersonal relationships. Finally, outdoor recreation partners are increasingly engaged in health promotion activities that couple recreation with opportunities to explore healthier habits in ways such as passing tobacco-free policies and partnering with agencies to access nutritious foods.

The connection between outdoor recreation and improved health is particularly important in Michigan, where many residents suffer from poor health outcomes. Michiganders face higher numbers of both poor physical and mental health days per year than the national average (University of Wisconsin Population Health Institute 2017). In 2016, 25.5 percent of Michigan adults said that, within the last 30 days, they did no physical activity or exercise other than their regular job duties.

Improving access to outdoor recreation can improve these poor health outcomes. For example, recent research shows that leisure, not paid work or housework, is now the part of life where most physical activity occurs (NRPA 2010). By providing opportunities for physical activity during leisure time, outdoor recreation services are becoming recognized as a critical component of the United States' healthcare system (NRPA 2010).

“Physical activity is essential to health and well-being, and people who live near a park are more likely to be physically active. Michigan's parks, outdoor spaces, and trails provide an abundance of opportunities for lifelong physical activity.”

Sarah L. Panken

Director of Network Programs,
Michigan Fitness Foundation

What Are the Key Actions for Addressing This Objective?

- Park and recreation agencies, state and local health departments, and local healthcare providers should collaborate on targeted marketing efforts that highlight and promote the role of parks and outdoor recreation in providing opportunities for physical activity and other health benefits.
- Use evidence-based practices to inform the deliberate and thoughtful design of programs, facilities, and services to enhance public health and wellness.
- Continue to invest in facilities, programs, education, and marketing that improve physical and mental health benefits through outdoor recreation. This should include opportunities to partner with Michigan's educational institutions to develop outdoor recreation-oriented curricula.



- Support the development of recreation facilities near residential populations to provide close-to-home recreational facilities and support an active and healthy lifestyle.
- Facilitate and support opportunities to provide healthy and sustainable food options within food service facilities at parks and other recreation areas.

How Will Michigan Measure Success in Meeting This Objective?

When the above actions are implemented, Michigan residents will better understand why and how parks and outdoor recreation can promote healthy living. Success in this objective will be achieved when more park and recreation agencies have partnered with health departments and healthcare providers to implement marketing and programming.



Objective Seven: Enhance Prosperity

Outdoor recreation advances economic prosperity and supports a high quality of life as well as talent attraction and retention in Michigan's communities.

Why Is This Important?

Outdoor recreation is a strong force in Michigan's economy. Parks and outdoor recreation resources and opportunities contribute to state and local economic prosperity primarily by:

- Attracting visitors to specific locations and regions, bringing new dollars into the state
- Helping to create vibrant communities that attract businesses and talented workers
- Spurring recreation-serving business creation and expansion through direct demand and expenditures by recreationists for gear, vehicles, and services
- Helping retain younger residents in the State of Michigan to live and work
- Increasing property values (and resulting tax revenues) for adjacent properties and neighborhoods

Outdoor recreation-based tourism is a particular asset and opportunity for Michigan that we continue to develop and promote. As the MEDC-sponsored Pure Michigan campaign persuasively demonstrates, Michigan has beautiful natural resources and recreational amenities that attract people to this state in all four seasons. Tourism is the second-largest industry in the state (behind only manufacturing), and our outdoor recreation opportunities—from world-class trout streams, to Great Lakes beaches, to more than 6,000 miles of connected snowmobile trails, to iconic places such as Pictured Rocks National Lakeshore—underpin much of the state's tourist activity (Library of Michigan 2017). A report prepared for the MEDC by Tourism Economics indicated that Michigan had more than 113.4 million visitor days in 2014. The study found that:

- Direct spending by leisure travelers equaled \$16.6 billion dollars—nearly 73 percent of all visitor spending in Michigan (as opposed to business travel).
- The tourism industry directly employed 214,333 people

in Michigan during 2014, and supported an additional 112,352 jobs in other sectors of the economy (Tourism Economics 2015).

Outdoor recreation also adds to community health and vitality and helps grow local economies by attracting businesses and workers. Michigan's outdoor recreation resources provide a competitive advantage in today's economy, where place and quality of life are key drivers of talent and business location decisions. There is an emerging sector of people, particularly young millennials and retirees, who are more mobile and are making decisions about where to live based on quality-of-life amenities, including access to parks, trails, and other outdoor recreation areas. Companies are also increasingly recognizing that their ability to attract talent is connected to the quality of life the community provides to potential employees, and associated entertainment and recreational amenities are often an important part of their recruiting package (Florida 2012; Adelaja et al. 2009; Michigan Recreation and Park Association, 2009). From skiing, snowshoeing, and snowmobiling in winter to swimming, fishing, and boating in the summer, few states in the country offer natural assets comparable to those that underpin Michigan's four-season outdoor recreation opportunities.

Outdoor recreation areas, parks, trails, and greenspaces also help develop local economies by increasing local property values and spurring the growth of recreation-serving businesses. The Outdoor Industry Association (2017a) estimates that outdoor recreation generated \$65.3 billion in federal tax revenue and \$59.2 billion in state/local tax revenue in 2016 from sales and property taxes. In Michigan, a 2012 study by the Land Policy Institute which looked at the effects of green infrastructure on Michigan's economy, found that outdoor recreation amenities, including Great Lakes shoreline, presence of trout streams, number of state forest campgrounds, presence of identified trails, and number of boat launches,

had only positive effects on population and employment levels (Adelaja et al. 2012).

Outdoor recreation-serving businesses also benefit from a robust system of recreation areas and infrastructure. When outdoor recreation participation expands, there are significant opportunities for businesses to meet the equipment and service needs of those users (e.g., hunters and anglers, birdwatchers, backpackers, boaters, campers, cyclists, equestrians, ORV and snowmobile riders, etc.) who frequent local businesses when recreating to purchase equipment and supplies. The growing diversity of recreational opportunities and demand for increasingly advanced recreational technology, materials, and equipment are also driving entrepreneurialism and business opportunities in this sector (Outdoor Industry Association 2012). The Outdoor Industry Association (2017a) estimated \$887 billion in national user spending on gear, equipment, and trip-related expenses in 2016, behind healthcare, financial services, and insurance spending.

Appendix C, “The Role of Outdoor Recreation in Advancing Michigan’s Economy,” describes the potential economic benefits and opportunities for Michigan in more detail as well as how the current SCORP citizen survey can be used to estimate the economic benefit of outdoor recreation in Michigan.

What Are the Key Actions for Addressing This Objective?

- Quantify and promote the economic impact of public lands, regionally and statewide.
- Integrate local and regional high-priority outdoor recreation infrastructure needs into regional strategies that link them with economic goals and leverage funding opportunities.
- Support ongoing, updated research on the role of outdoor recreation in promoting economic prosperity,

including information on how and which recreation investments provide high social and economic returns for the state, including attracting and retaining talent and providing a high quality of life.

- Promote opportunities for public-private partnerships to collaborate on events-oriented recreation.
- Develop a program to enhance trail-oriented economic development through the designation of Pure Michigan Trails, Trail Towns, and Water Trails that helps communities and businesses maximize related economic potential.
- Connect existing trails and trail networks to create destination trails that provide multiday experiences, tell stories, and drive trail-specific tourism (e.g., Great Allegheny Passage, Katy Trail, etc.).
- Advocate for recreational and historical experiences to be part of economic development planning.
- Evaluate opportunities to use recreation funding to support redevelopment of vacant or underutilized lands and facilities to provide high-quality recreational opportunities and support community placemaking.

How Will Michigan Measure Success in Meeting This Objective?

When the above actions are implemented, both the state and local communities and regions will better understand why and how parks and outdoor recreation should be connected to economic development efforts. Success in this objective will be achieved when all local recreation plans submitted for review by the MDNR identify how their plan assists in advancing economic prosperity in the planning area and all regional Community and Economic Development Strategies include at least one priority park and outdoor recreation project identified by local communities or regional planning organizations.

“Jay’s Sporting Goods’ business model relies on Michigan’s recreation opportunities. More than 90 percent of our merchandise enhances outdoor activity, and I am frequently reminded of the importance of our products and knowledgeable staff. Our satisfied customers support our employees, who in turn make purchases in the local economy. People come from around the country—even Canada—to enjoy Michigan’s natural beauty.”

Mark Copeland

Store Director, Jay’s Sporting Goods



Chapter Four. **Public Engagement Process**



In developing the 2018–2022 SCORP update, the MDNR, in partnership with its consulting team (see Appendix D for a listing of the SCORP team), undertook a variety of efforts to engage the public, recreation providers, and stakeholders in identifying key recreational assets, priorities, and strategies for the coming five years. Many of these stakeholders will be active partners in implementing the objectives and strategies identified in the SCORP, and will provide significant direction on how the state and local communities could better collaborate to approach management of Michigan’s entire system of parks and outdoor recreation spaces.

The MDNR relied heavily on the use of surveys and a steering committee to obtain initial input from the public and recreation providers. Four different survey mechanisms were employed during the process:

- In early 2017, an online survey was distributed to local units of government to help identify their outdoor recreation needs and priorities. It was distributed through the Michigan Municipal League, the Michigan Association of Counties, the Michigan Townships Association, the Michigan Association of Regions, and mParks. It contained 30 questions and was designed by the MDNR to take approximately 15 minutes to complete. In total, 355 units provided feedback, most at the township, city, or village levels. The findings of this survey were incorporated into the SCORP objectives and action items.
- An online survey of outdoor recreation businesses was conducted in early 2017 to assess the needs and priorities of Michigan’s outdoor recreation business sector. It contained 21 questions and was designed by the MDNR to take approximately ten minutes to complete. In total, 23 businesses responded with feedback.
- A statistically significant public opinion survey was utilized to obtain data on outdoor recreation participation, identify barriers to use, and obtain

information on statewide and regional satisfaction. The 20-minute phone survey of 1,550 Michigan residents was conducted from April 12 until May 6, 2017, with participation weighted to match Michigan’s demographic profile. A minimum of 300 surveys were conducted in each of five identified regions of Michigan, with participation weighted to match each region’s demographic profile.

- The draft outlines were sent to the steering committee in May and June 2017 to obtain feedback on the draft SCORP objectives and strategies that the MDNR had developed.

The MDNR contracted with stakeholder organizations to conduct a series of 13 community conversations statewide. The conversations were facilitated by the hosting stakeholder organization and the content of the meetings was recorded by Public Sector Consultants. These small, focus-group style conversations were structured to obtain detailed input from providers and users regarding the state’s outdoor recreation assets, priorities for investment, and strategies for achieving the draft SCORP objectives. The feedback provided at these meetings was used to refine draft objectives and shape the specific action items recommended in chapter three. A summary of these conversations is provided in Appendix E.

The MDNR also consulted many of the state’s standing natural resource-oriented advisory groups:

- Natural Resources Commission
- State Parks Advisory Committee
- Waterways Commission
- Michigan Natural Resources Trust Fund Board
- Forest Management Advisory Committee
- Michigan Heritage Leadership Council
- Accessibility Advisory Council
- Michigan Trails Advisory Council

These groups advise the department on the state’s natural

resources protection, management, and investment activities, and will be critical in overseeing implementation of the SCORP objectives.

A draft of the SCORP document was made available for public review in October and comments are summarized in Appendix F.



Chapter Five. **Michigan Wetlands and Outdoor Recreation**



The 1986 Emergency Wetlands Resources Act (Public Law 99-645, S. 303) requires states to address wetlands protection in their five-year SCORP documents. The SCORP wetlands component must:

- Be consistent with the National Wetlands Priority Conservation Plan developed by the U.S. Fish and Wildlife Service
- Be based on consultation with the state's fish and game management and wetlands protection agency(ies)
- Include a description of priority wetlands planning and funding under the Land and Water Conservation Fund program

This section of the SCORP reviews the benefits and types of wetlands in Michigan, the status of Michigan's wetlands resources, recent planning and funding efforts, and new initiatives and priorities.

Overview of Michigan's Wetlands Resources

Michigan's wetlands statute defines a wetland as "land characterized by the presence of water at a frequency and duration sufficient to support, and that under normal circumstances does support, wetland vegetation or aquatic life, and is commonly referred to as a bog, swamp, or marsh."

Michigan has many types of wetlands including bogs, fens, deciduous swamps, wet meadows, emergent marshes, vernal pools, wet prairies, and conifer swamps. Wetlands play a significant role in the health and existence of other natural resources of the state, such as inland lakes, ground water, fisheries, wildlife, and the Great Lakes. Michigan's wetland statute recognizes the following benefits provided by these areas:

- Flood and storm control by the hydrologic absorption and storage capacity of wetlands

- Creation of wildlife habitat by providing breeding, nesting, and feeding grounds as well as cover for many forms of wildlife, such as waterfowl, including migratory species, and rare, threatened, or endangered wildlife species
- Protection of subsurface water resources and provision of valuable watersheds and recharging ground water supplies
- Pollution treatment by serving as a biological and chemical oxidation basin
- Erosion control by serving as a sedimentation area and filtering basin, absorbing silt and organic matter
- Sources of nutrients in aquatic food cycles and nursery grounds and sanctuaries for fish

These benefits, often referred to as wetland functions and values, play a vital role in recreation, tourism, and the economy in Michigan. This wide range of ecosystem services that wetlands provide contribute to the well-being of Michigan's residents and visitors. There are a diversity of outdoor recreational opportunities afforded by wetlands, including fishing, wildlife viewing, waterfowl hunting, and boating and paddling.

Status of Michigan's Wetlands Resources

In 2014, the Michigan Department of Environmental Quality completed an analysis of the status and trends of Michigan's wetlands, and published their "Status and Trends of Michigan's Wetlands: Pre-European Settlement to 2005" report (MDEQ 2014). This project used wetland inventories from 1978 to 2005 to analyze changes in wetlands over the last 30 years in Michigan. The report indicates that Michigan currently has approximately 6.47 million acres of wetlands statewide, or approximately 60 percent of the wetlands remaining since European settlement. Since the passage of Michigan's wetlands

protection law in 1979, the rate of wetland loss has declined dramatically. Wetland loss has not been uniform across the state due to significant geographical differences, ecosystem variability of the Great Lakes coastline, urban centers, and other physical, biological, and chemical factors. Of the wetland loss that has occurred in Michigan since European settlement, 66 percent of lost wetlands were located in the southern Lower Peninsula; 20 percent were located in the northern Lower Peninsula; and 17 percent were located in the Upper Peninsula.

Of the overall wetland losses in Michigan, most of these were emergent wetlands and forested wetlands, with fewer losses of scrub shrub or aquatic bed type wetlands. These wetland losses were primarily due to agriculture or other types of development. There were new wetlands created over time, but many were open water ornamental or recreational ponds on residential lots. These wetland “gains” have not replaced the vegetated wetland communities, or the wetland functions and values on the landscape where losses have occurred.

Michigan’s wetland resources continue to be depleted at a rate that, while slowing, is still faster than efforts to restore or create wetlands. Areas with historic wetland losses are still struggling with the consequences of that loss (e.g., water quality issues, flooding and flashy streams, and loss of wildlife).

Michigan’s wetlands continue to face increasing and new threats, including agricultural development, urban development, invasive species, and climate change. Habitat quality and acreage continue to be impacted due to invasive species (e.g., phragmites, reed canary grass, glossy buckthorn, and mute swans), pollution, and development. Global demands for food, fuel, and space affect the availability of land for conservation (e.g., increasing market demand for food and biofuel is driving the conversion of wetlands and grasslands habitat to agriculture). In addition, climate change has

the potential to impact Great Lakes water levels, interior wetlands, precipitation events, and water temperatures. Public funding for conservation has decreased and federal funding for wetlands programs continues to be in jeopardy due to program cuts. Finally, social and demographic changes, including continuing urbanization of the North American population, are creating generations of people who are increasingly disconnected from the outdoors and wildlife, and who, as a result, may have less of a wetlands stewardship ethic.

Wetlands Planning and Protection Efforts

Michigan’s wetlands statute recognizes the important benefits provided by wetlands and their vital role in recreation, tourism, and the economy. Over 30 years ago, Michigan was the first state, and remains one of only two states, to have received authorization from the federal government to administer the federal wetland program. Because of this approval, wetlands, lakes, and streams permits issued by MDEQ under state law also provide federal approval. Part 303 regulates filling, draining, dredging, or maintaining existing wetlands uses that are connected or contiguous to an inland lake, pond, river, stream, or one of the Great Lakes, that are greater than five acres in size, or determined to be essential to the preservation of the state’s natural resources. Michigan’s wetland plan identifies long-term strategies for protection of wetland resources:

- Maintaining a short-term goal of achieving no net loss of wetland acreage, function, and public value and a long-term goal of increasing the quantity and quality of Michigan’s wetlands through restoration and management.
- Protecting Michigan’s remaining wetlands through implementation of an effective and efficient regulatory

program and maintaining administration of Section 404 of the federal Clean Water Act.

- Assessing and monitoring the quality and quantity of Michigan’s wetlands to improve wetland protection, management, and restoration.
- Working with partners to identify and develop methods to improve protection, management and restoration of Michigan’s Wetlands and advance public understanding and connection to Michigan wetlands.
- Protecting and restoring Great Lakes coastal wetlands and other rare wetlands.

In addition to Michigan’s Wetland Program Plan, the North American Waterfowl Management Plan (NAWMP) was updated in 2012 with a new emphasis on the integration of waterfowl populations, habitat, and social values (NAWMP Committee 2012). Conservation partners in Michigan are committed to the revision of the NAWMP Michigan Implementation Strategy to reflect this integration of waterfowl, wetlands, and people.

In terms of protection efforts, conservation goals for wetlands and associated uplands from the most recent NAWMP Michigan Implementation Strategy (1998–2013) were met and exceeded by approximately 39 percent (150,400 acres protected; 59,000 acres restored; and 54,600 acres enhanced).

This success can be attributed to a number of key federal and state programs, including the North American Wetlands Conservation Act (NAWCA), the Conservation Reserve Enhancement Program (CREP), and the Wetlands Reserve Program (WRP).



Joint ventures were established across North America to assist in NAWMP implementation. Michigan is located within the Upper Mississippi River and Great Lakes Region Joint Venture (UMRGLRJV). The 2007 implementation plan and associated bird habitat conservation strategies for the UMRGLR JV set goals for both wetlands maintenance and protection objectives as well as restoration and enhancement objectives for Michigan to meet carrying capacity for breeding and nonbreeding population goals in the UMRGLR JV. These acreage goals are divided into several different wetlands community types. Importantly, Michigan accounts for a large portion of the marsh habitat maintenance objective and the shallow semipermanent

marsh restoration and enhancement objective for the JV (UMRGLR JV 2007). UMRGLR plans are currently being updated to reflect the goals and objectives in the revised NAWMP.

In 2016, the Michigan Office of the Great Lakes released Michigan's Water Strategy, a 30-year plan to protect, enhance, and sustainably manage Michigan's water resources. The plan was developed based on a collaborative process to obtain broad, diverse input and highlights key actions for government, tribal governments, nongovernmental organizations, industry, academia, local communities, and individuals to protect and enhance one of Michigan's water resources. The water strategy features

nine action areas, including one to protect and restore aquatic ecosystems, which identifies the importance of protecting and restoring wetland function; recognizes the significant ecological and tribal importance of wild rice wetlands; and prioritizes coordination, planning, and implementation of invasive species control for management of wild rice. This section of the water strategy also highlights statewide prioritization of hydrologic connectivity restoration, groundwater resources management, and building resiliency into riparian systems.

Wetlands Funding

In addition to Land and Water Conservation Fund support, there are a number of primary funding sources for wetland conservation that have been successfully secured in Michigan. Most of these funds can be attributed to diverse and strategic MDNR partnerships that have resulted in the restoration, enhancement, and protection of wetlands across large landscapes.

One of these key funding sources of wetlands conservation is the North American Wetlands Conservation Act. Nationally, the NAWCA benefits the economy by translating \$1.08 billion in federal funds into at least \$3.5 billion in additional economic activity in the United States. These expenditures have created, on average, nearly 3,800 new jobs annually throughout the country, generating nearly \$840 million in worker earnings each year. Michigan has received 50 NAWCA grants between 1987 and 2016, which have conserved over 56,700 acres of wildlife habitat (wetlands and associated uplands). More than \$18.8 million was secured through these grants and matched by over \$62.7 million of nonfederal funds from partners.

Michigan's Conservation Reserve Enhancement Program offers a key opportunity to protect wetlands on private lands. Administered by U.S. Department of Agriculture's

Farm Service Agency (USDA-FSA), CREP provides financial and technical assistance to landowners willing to voluntarily implement conservation practices to benefit water quality, minimize soil erosion, and provide wildlife habitat. Since 2000, the State of Michigan has partnered with USDA-FSA, private and public conservation organizations, universities, and farm landowners with a goal of enrolling 85,000 acres of filter strips, wetland restorations, riparian buffers, field windbreaks, and grass plantings. State funds are used to provide financial incentives to participating landowners, provide technical assistance, and leverage federal funds. The program targets nonpoint source pollution resulting from crop production, reducing the transport of phosphorus, nitrates, and pesticides by 70 percent. Eligible farmlands are located in Saginaw Bay, River Raisin, Lake Macatawa, and the Western Lake Erie Basin Watersheds, covering all or parts of 30 counties in Michigan. To date, nearly 79,000 acres have been enrolled in the eligible watersheds, including approximately 4,000 acres of permanent conservation easements. The MDNR's annual Spring Breeding Waterfowl Survey has shown an increase in waterfowl observed per square mile, compared to adjacent non-CREP areas, in both the Saginaw Bay and River Raisin watersheds. This demonstrates that CREP is likely having a positive impact on waterfowl.

The USDA Natural Resources Conservation Service (NRCS) administers the Wetlands Reserve Program to provide technical and financial assistance to private landowners to help conserve wetlands and their related benefits. Eligible land in Michigan includes farmed or converted wetland that can be successfully and cost-effectively restored while maximizing wildlife habitat benefits. Priority is also given to projects in close proximity to other wetlands, programs that provide habitat for state or federal threatened or endangered species, and/or programs located in a NAWCA joint venture primary focus area. NRCS develops plans to restore enrolled wetlands and protects the enrolled land

with either a permanent or 30-year easement. Since 1998, there have been 454 contracts that have conserved 40,600 acres of wetlands and associated uplands.

The U.S. Fish and Wildlife Service's Partners for Fish and Wildlife Program (PFW) works with landowners to voluntarily restore and enhance fish and wildlife habitat on their private (nonfederal/nonstate) lands. Working in partnerships with other conservation agencies and organizations, the service may provide technical and financial assistance to landowners when their goals align with PFW Program goals. The program primarily works within defined focus areas to improve wetland, grassland, young forest, and coldwater stream habitats to benefit migratory birds, native pollinators, and other species with declining populations. Between 2007 and 2016, the PFW Program helped to restore or enhance 839 wetland basins, totaling more than 6,200 acres.

New Initiatives and Priorities

The Great Lakes Restoration Initiative (GLRI) targets the most significant ecosystem issues in the region, including invasive aquatic species, nonpoint source pollution, habitat restoration, and contaminated sediment. The GLRI is an Environmental Protection Agency (EPA)-led program that aims to protect, maintain, and restore the chemical, biological, and physical integrity of the Great Lakes. Restoration of wetlands and other habitats is a GLRI focus area, and its objective is to protect, restore, or enhance 60,000 acres of coastal wetlands by 2019. Competitive GLRI grant funds have been available through the EPA, the U.S. Fish and Wildlife Service, and other federal agencies since 2010. Michigan state agencies, nongovernment organizations, and local governments have been very successful in securing several GLRI grants since 2010.

In 2010, at the beginning of the GLRI program, a cooperative project, the Great Lakes Coastal Wetland

Monitoring Program, was launched by Central Michigan University. This is a large collaborative effort between over 18 universities and state and federal agencies, including the MDEQ, across the Great Lakes basin. This effort monitors Great Lakes coastal wetland plants and animals, habitat, and water quality to provide information on coastal wetland condition using fish, birds, calling amphibians, wetland vegetation, aquatic macroinvertebrates, and water quality.

Through the Upper Midwest and Great Lakes Landscape Conservation Cooperative, the Coastal Conservation Working Group (CCWG) was formed in 2013, bringing together federal, state (including both the MDNR and MDEQ), tribal, and private conservation groups focused on protecting and restoring the critical Great Lakes Coastal Zone. One of the primary priorities of the CCWG is conserving coastal wetlands. Several efforts are completed or underway in a pilot geography that covers the southeast portion of Michigan (pilot geography extends from Saginaw Bay, Michigan to the western portion of Lake Erie in Ohio). These efforts include the development and deployment of two decision support tools, the development of a collaborative vision and strategy for landscape-scale conservation, and the initiation of an ecosystem services valuation study; all focused on coastal wetlands. The CCWG, collaborating with myriad partners in Michigan and Ohio, is aligning shared coastal wetland priorities, science, and on-the-ground activities to help produce meaningful benefits to fish, wildlife, and people.



Chapter Six. **Summary and Conclusions**



Michigan has world-class recreation assets. Our Great Lakes, inland lakes, rivers and streams, forests, sand dunes, and other natural resources provide an unparalleled foundation to support outdoor activity. Across ownership types, Michigan has more than 8 million acres of public land. Our 103 state parks and recreation areas, state forests, and game areas, as well as the hundreds of federal, regional, and local parks help keep our residents healthy, advance the prosperity of the state, and connect people to the outdoors while providing opportunities to take part in a wide range of outdoor activities.

On a statewide basis, residents are highly satisfied in terms of both the quality and quantity of outdoor recreation (see Appendix B). Many of our statewide recreation assets were designed to serve as destination locations, drawing visitors from across the state and around the country for weekend and extended trips. The state has excelled in developing innovative funding models such as the Michigan Natural Resource Trust Fund, the State Park Endowment Fund, and the Recreation Passport to support the acquisition and development of these spaces.

These innovative funding models have helped us develop our recreation infrastructure at the state and local levels. However, Michigan's recreation needs continue to evolve. Now, greater emphasis is emerging around the need to further develop funding mechanisms that support maintenance of existing recreation assets to ensure that they continue providing high-quality experiences for Michigan's residents and visitors. Additionally, greater emphasis is emerging around the need to enhance recreation opportunities close to home. While residents are satisfied with the amount and quality of outdoor recreation opportunities within 30 minutes of their house, there is a lower rate of satisfaction than on a statewide basis. Enhancing recreation opportunities close to home can help ensure that our communities are desirable places to live, enhance our economic prosperity, and support

a healthy and active lifestyle for all Michiganders. For example, recreation amenities increase property values; attract visitors, employees, and businesses; and enhance physical activity levels, leading to decreased obesity rates.

Differences in participation and satisfaction rates also become evident when reviewing survey results for different demographic groups and races. Michigan's investments in recreation amenities, programming, and staffing should seek to ensure that recreation opportunities are connected and accessible to residents and visitors of all backgrounds, abilities, means, and geographic locations.

Changes in technology also continue to reshape our lives in ways that present both challenges and opportunities for outdoor recreation. As a society, we are spending more time in front of screens and less time outdoors—but technology should be viewed as an opportunity to enhance our outdoor experiences, provide greater access to information about recreation opportunities, and boost participation. For example, since the previous SCORP was developed, the use of cell phone applications increased by almost 15 percent as a method of consuming information regarding outdoor recreation. Furthermore, one-third of Michiganders now use social media to plan outdoor recreation activities—a category that was not tracked in the previous SCORP. Recreation partners should continue to embrace emerging technologies to improve and raise awareness about Michigan's outdoor recreation. In the coming years, new technologies will undoubtedly emerge that provide new ways to enhance outdoor recreation experiences.

The SCORP is a five-year action plan that will be used by the state and its local outdoor recreation partners, such as municipalities, conservation organizations, clubs and user groups, recreation-based businesses, and nonprofits to guide outdoor recreation management and policy decisions. This action plan strives to ensure that Michigan

continues to protect and manage its top-notch assets that offer fun and relaxation, and meet the needs of Michigan's residents and visitors.

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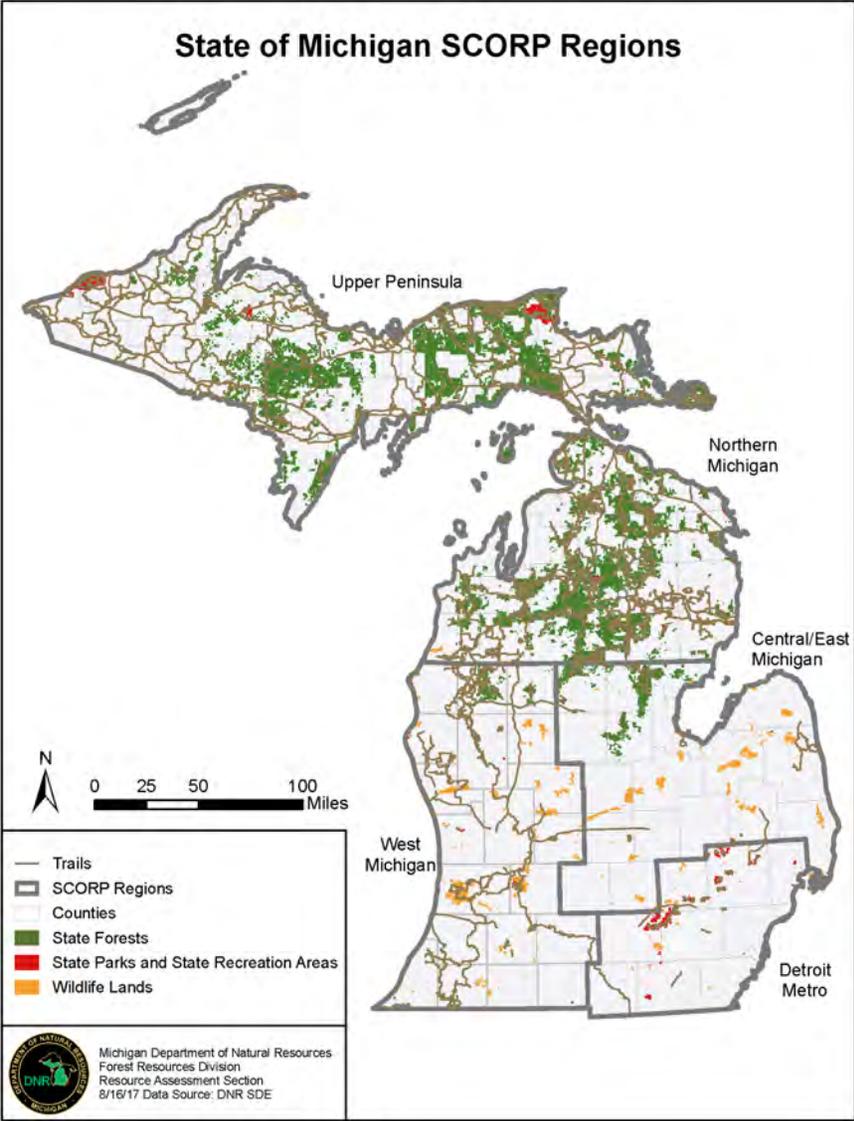
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Appendix A. **Michigan Department of Natural Resources Recreation Lands**

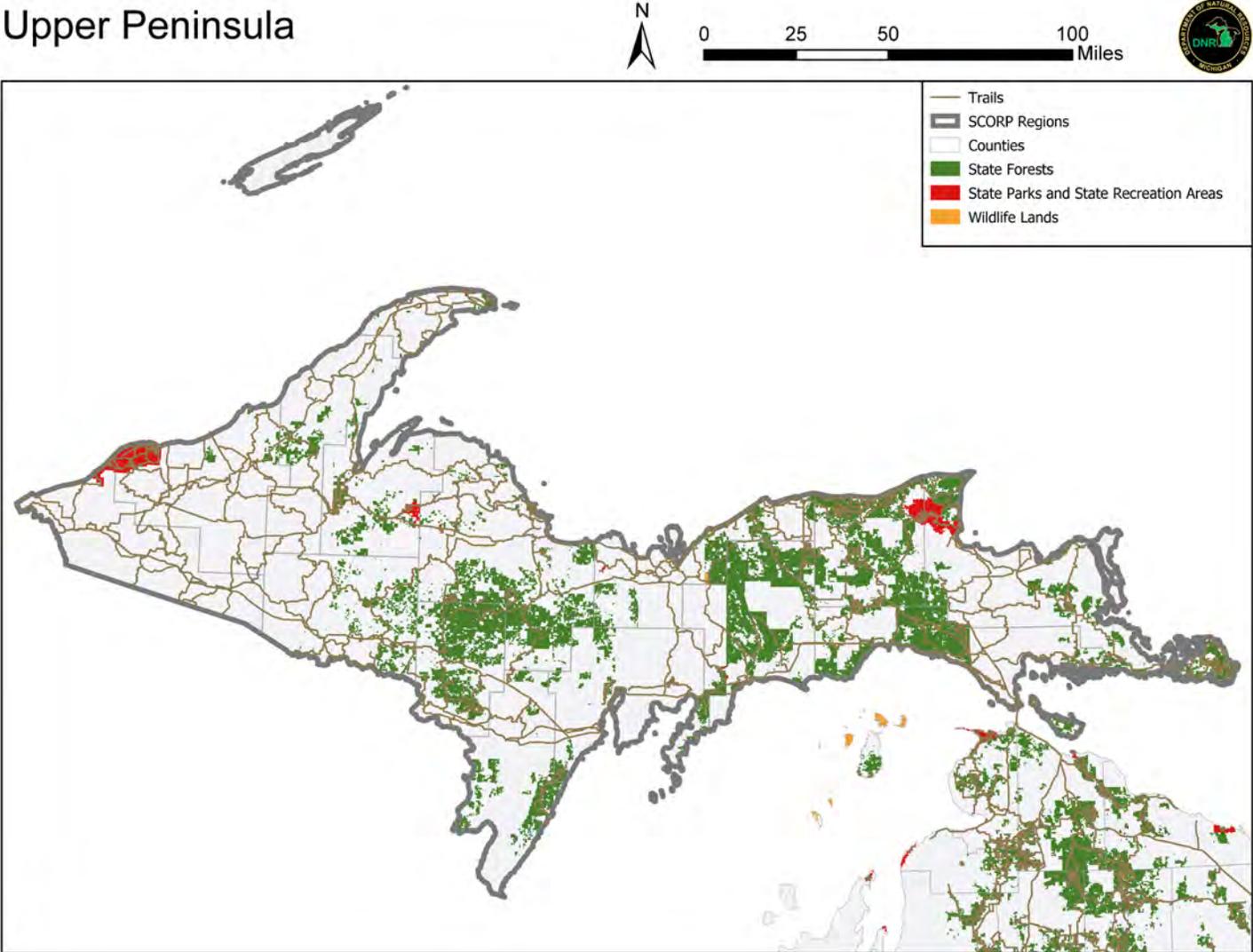


Exhibit AI. Statewide Department of Natural Resources Recreation Lands



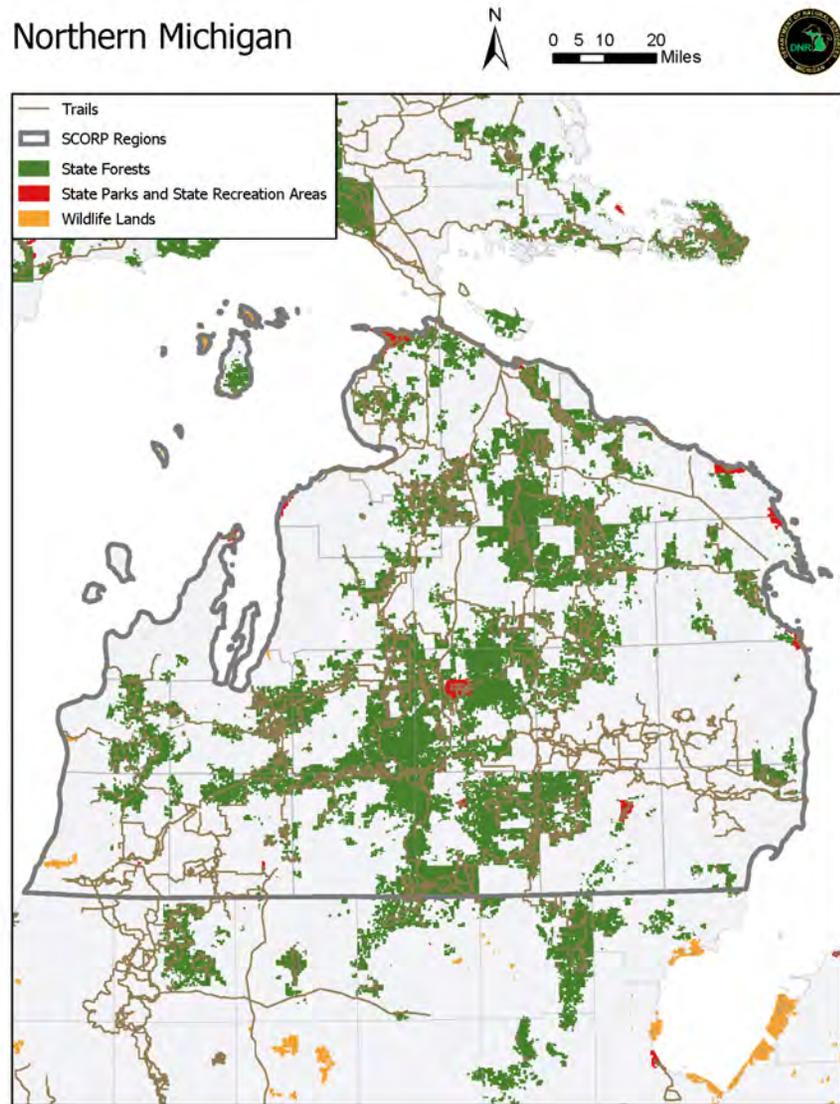
Source: Michigan Department of Natural Resources

Exhibit A2. Upper Peninsula Department of Natural Resources Recreation Lands



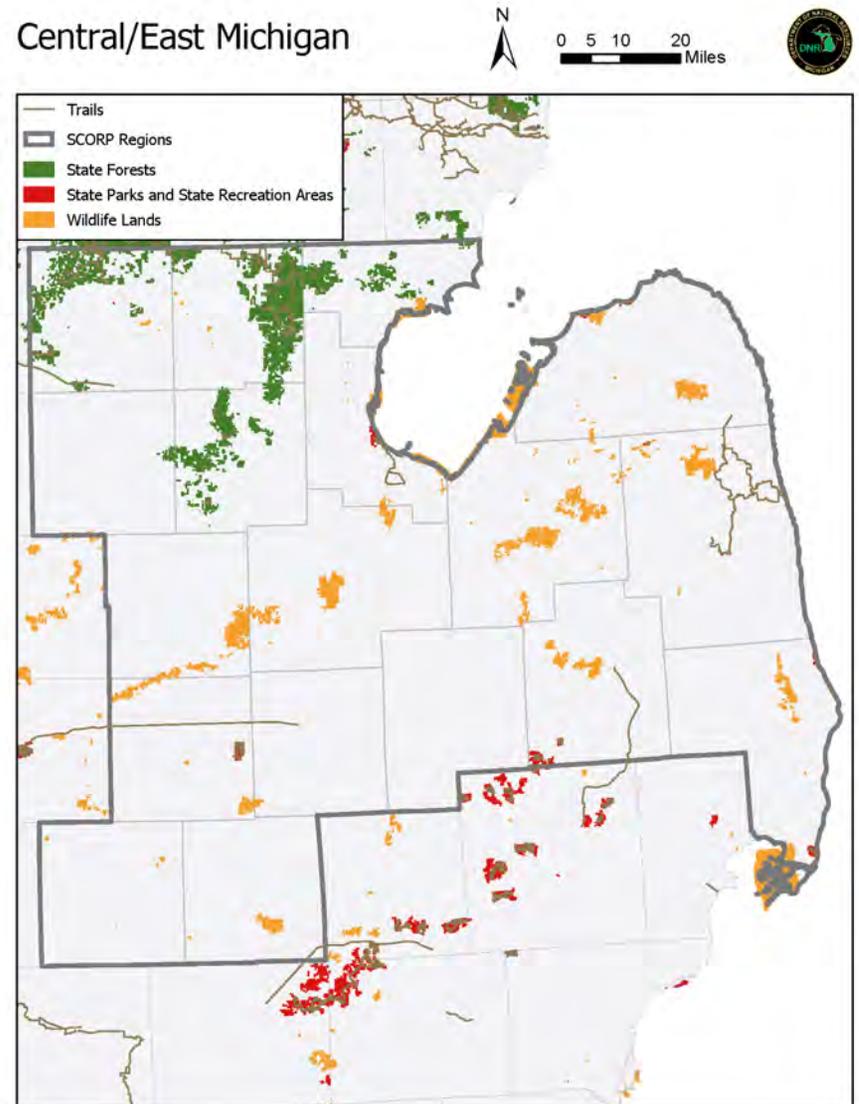
Source: Michigan Department of Natural Resources.

Exhibit A3. Northern Michigan Department of Natural Resources Recreation Lands



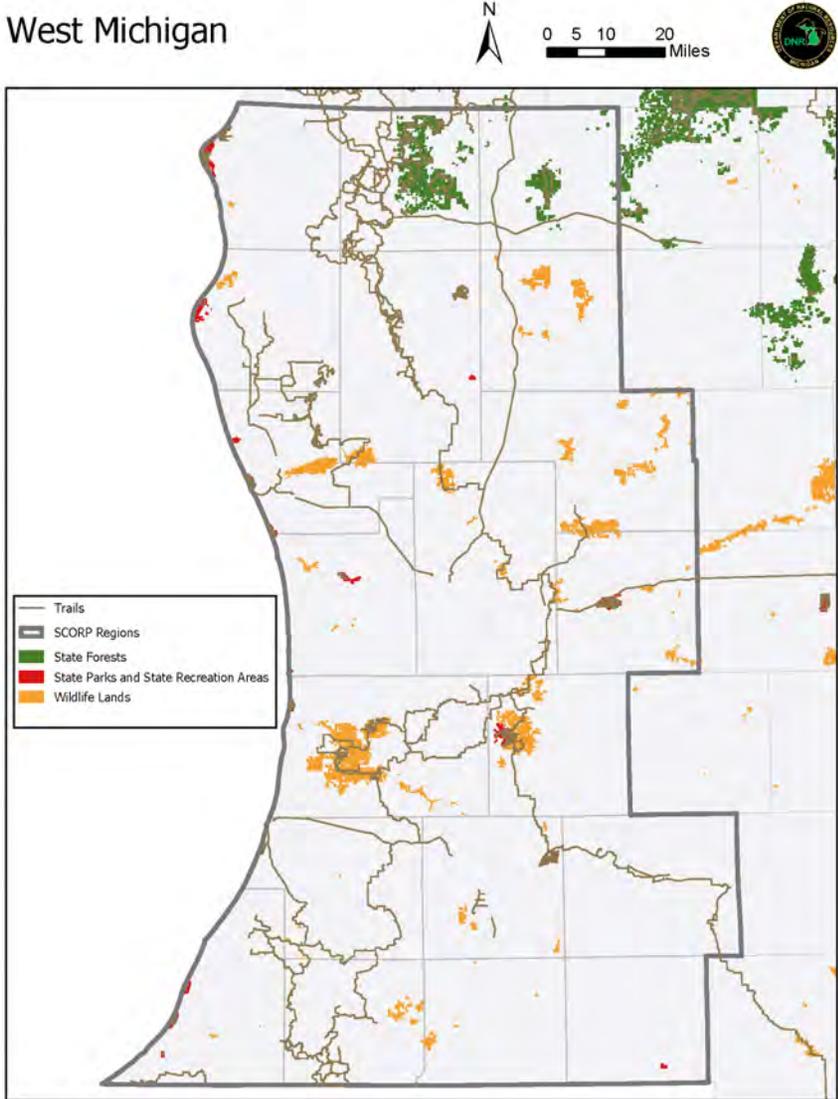
Source: Michigan Department of Natural Resources.

Exhibit A4. Central/East Michigan Department of Natural Resources Recreation Lands



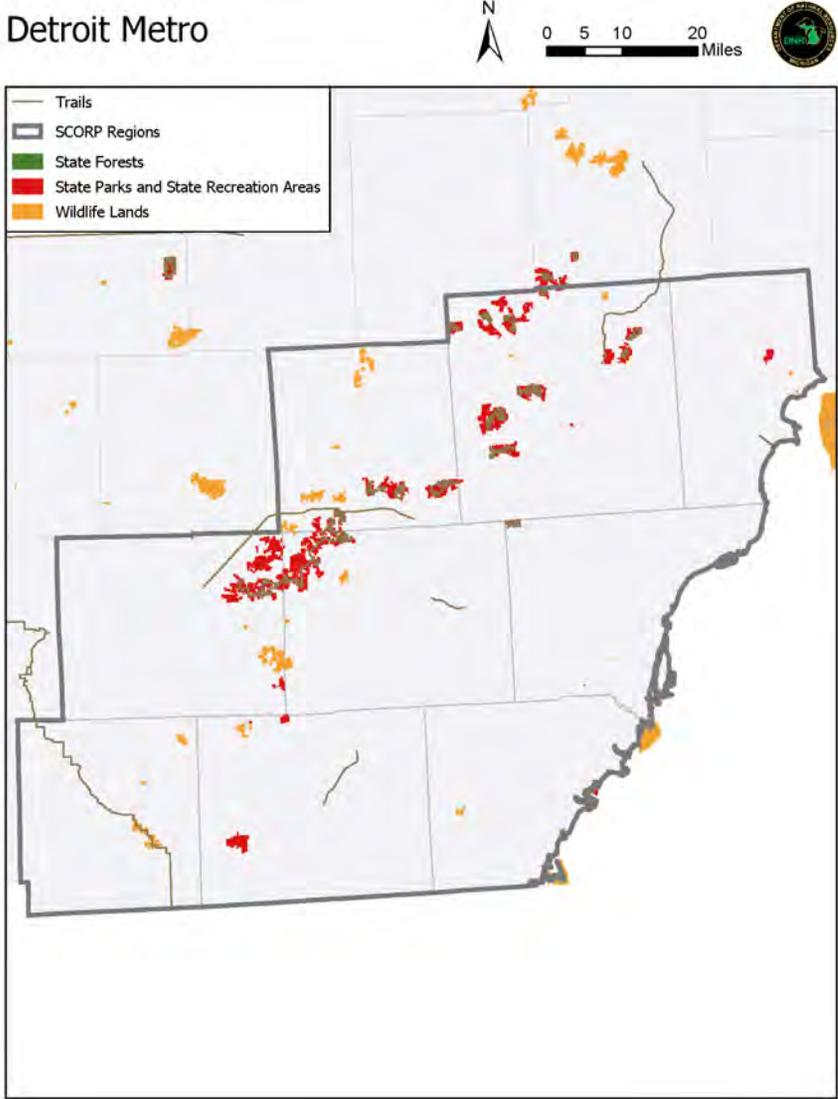
Source: Michigan Department of Natural Resources.

Exhibit A5. West Michigan Department of Natural Resources Recreation Lands



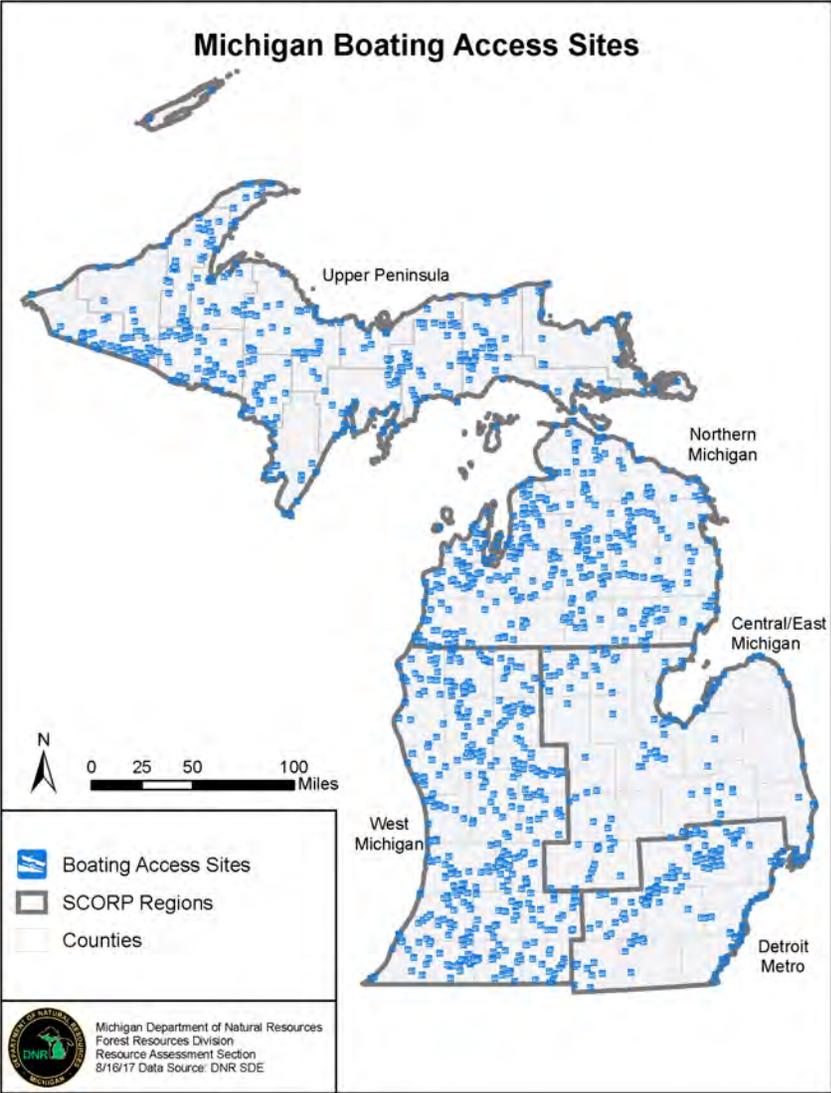
Source: Michigan Department of Natural Resources.

Exhibit A6. Metro-Detroit Department of Natural Resources Recreation Lands



Source: Michigan Department of Natural Resources.

Exhibit A7. Department of Natural Resources Boating Access Sites



Source: Michigan Department of Natural Resources.



Appendix B. Summary of SCORP Public Opinion Survey



Introduction

As part of developing the 2018–2022 Statewide Comprehensive Outdoor Recreation Plan, the Michigan Department of Natural Resources conducted a telephone survey of Michigan residents to help understand their use of, preferences for, and satisfaction with outdoor recreation opportunities. The survey was modified from the 2012 version to obtain more precise estimates of residents' participation, including total days of participation, in 35 separate activities. This data provides a more robust picture of Michigan's outdoor recreation activity and can, in the future, be combined with per-day spending to estimate the economic impact of outdoor recreation in Michigan.

The 15- to 20-minute survey was implemented from April 12 to May 6, 2017, and collected a total of 1,550 responses from residents across Michigan. The survey sample was divided across five regions of the state: Upper Peninsula, Northern Michigan, West Michigan, and Central/East Michigan receiving 300 responses each; and Metro Detroit receiving 350 responses. The survey results were weighted at the statewide level using a methodology known as raking so that the results more closely match the gender, age, racial, and education distribution of Michigan residents, as well as to ensure that each region of the state is appropriately represented. Survey responses for each region of the state were also weighted by raking using regional demographic profiles.

The following summary presents selected statewide findings, a breakdown of key questions by selected demographics, and selected regional results. The statewide findings have an adjusted margin of error of 3 percent.³ The margins of error for the regional results are presented in their respective sections. Frequency reports

for the statewide analysis, selected demographic analysis, and regional analysis are available in the Michigan Outdoor Recreation Telephone Survey: Frequency Reports document on the DNR website.

Selected Statewide Key Findings

- Over 79 percent of Michigan residents feel that outdoor recreation is very important or moderately important to their household. This is slightly below the nearly 84 percent of Michigan residents who felt this way during the 2012 SCORP citizen phone survey.
- Three out of five of Michigan's black or African-American and Hispanic, Latino- or Spanish-origin residents participate in outdoor recreation, compared to white, non-Hispanics who participate at a rate of over four out of five).
- Those aged 25–34 and 45–54 had the highest rates of outdoor recreation participation (around nine out of ten people).
- More than three-quarters of respondents are satisfied or very satisfied with the amount and quality of outdoor recreation in Michigan (around 84 and 82 percent, respectively).
- Just under three-quarters of respondents are satisfied or very satisfied with the amount and quality of outdoor recreation within a half hour of their home (73 percent and 74 percent, respectively).
- One out of five of Michigan's black or African-American; Hispanic, Latino- or Spanish-origin; or any other non-white race residents are dissatisfied or very dissatisfied with the amount of outdoor recreation within a half hour of their home, compared to only one out of ten white, non-Hispanic residents that are dissatisfied or very dissatisfied.
- One out of five of Michigan's black or African-American

residents are dissatisfied or very dissatisfied with the quality of outdoor recreation within a half hour of their home, compared to less than one out of ten white, non-Hispanic and Hispanic, Latino- or Spanish-origin residents that are dissatisfied or very dissatisfied.

- Out of all activities, walking outdoors, including dog walking, was identified as the most important outdoor activity by 26 percent of users.
- Nearly 47 percent of those who selected tent or rustic camping, 44 percent of those who selected modern or RV camping, and 34 percent of those who selected big-game hunting as their most important activity are willing to drive more than six hours, on average, to participate.
- Over 89 percent of Michigan outdoor recreation participants went outside 52 or more days in the year for outdoor recreation of any type, with nearly 60 percent doing so for more than 100 days. Nationwide, the average number of outdoor outings per adult aged 25 and older is just under 73 outings per year (Outdoor Foundation 2017).
- Most outdoor recreation participants utilize recommendations from family and friends (68 percent, an increase from 59 percent in 2012), followed by Internet searches (55 percent) or previous experience (54 percent) to plan for their outdoor recreation activities.
- Household members under the age of 18 also participated in outdoor recreation, with visiting parks or playgrounds (85 percent), swimming outdoors (76 percent), and sledding or tubing (54 percent) having the most participants.

³ See the methodology section for more detail on rake weights and the calculation of appropriate error rates.

Statewide Outdoor Recreation

Activities

Understanding how people are spending time outdoors provides an indication of the preferences and potential future direction of outdoor activity in Michigan. This year, direct questions were asked about total days of participation within the last year for 34 activities. This, in combination with the statewide participation rate, allows for the estimation of total participant days for Michigan residents. Due to the change in how this question was asked, direct comparisons of participation rates for specific activities cannot be made between the 2012 and 2017 citizen surveys. There are a few exceptions for a small list of activities that were directly investigated in the 2012 citizen survey, which are noted below. Overall, four out of five respondents (79 percent) reported participating in any type of outdoor recreation in the past year. Respondents were asked how many days in the past year they participated in 34 separate activities. The order of the activities read in the survey was randomized for each respondent. Of the 1,550 survey respondents, 1,268 participated in at least one of the listed activities.

Exhibit B1 shows which activities have the highest participation rate as well as the total number of participant days in Michigan.⁴ Also included at the bottom of the table are the total participation rates for biking of any kind, camping of any kind, and hunting of any kind. Respondents reported the total number of days they participated in an activity within the past year, which was then extrapolated to Michigan's total adult population to provide a total estimated number of days of activity. Seventy-five percent of survey respondents relaxed outdoors in the past year,

⁴ Participant days were calculated by extrapolating out the average number of participant days from survey respondents to the general population based on participation rate.

with an average of 76 days per year. Walking outdoors, with a 74 percent participation rate, has an average of 102 days of participation in the past year. This data was collected for future use in economic contribution analysis. It should be noted that some of these participation rates are higher than other data would suggest (such as the percentage of the population that purchases hunting licenses per year being lower than the participation rate of survey respondents). Also, many of these activities may be engaged in at the same time. Participation rates should be adjusted based on known and verifiable data before an economic contribution analysis is conducted. An activity can have a low participation rate but high (relatively speaking) total days of participation due to a high average of participation days.

Exhibit B1. Top Outdoor Recreation Activities

Activity	Total Participant Days	Participation Rate
Relaxing outdoors	436,642,901	75%
Walking outdoors, including dog walking	576,132,624	74%
Visiting parks or playgrounds	150,420,905	67%
Sightseeing and/or driving for pleasure	200,974,504	64%
Visiting nature centers or historic sites	36,465,987	56%
Swimming outdoors	99,130,632	54%
Picnicking	58,330,039	53%
Fishing	77,266,345	41%
Team or individual sports outdoors	84,751,341	37%
Wildlife viewing and/or photography (including birding)	108,373,278	36%
Hiking/backpacking	48,025,953	34%
Jogging/running	137,149,463	34%
Canoeing, kayaking, stand-up paddle boarding, or wind surfing	26,960,187	32%
Road biking	68,469,091	31%
Motor boating	49,747,531	31%
Sledding/tubing	23,677,874	30%
Tent or rustic camping	28,629,569	30%
Shooting sports (including archery)	52,810,204	30%
Modern or RV camping	40,259,553	25%
*Biking of any kind (road or off road)	N/A	40%
*Camping of any kind (modern, RV, tent or rustic)	N/A	39%
*Hunting of any kind (big game, waterfowl, upland, or small game)	N/A	20%

Note: Due to different methodology, these participation rates cannot be compared directly to the 2012 SCORP survey.

Source: Public Sector Consultants conducted a statewide recreation telephone survey of Michigan residents on behalf of the Michigan Department of Natural Resources, April–May 2017.

In the 2012 citizen survey, respondents were only directly asked if they participated in several specific activities: relaxing outdoors; visiting parks or playgrounds; or walking outdoors, including dog walking. The participation for relaxing outdoors and visiting parks or playgrounds is similar now to five years ago, when considering both surveys' margins of error. Participation rates for 2012 for other activities are not directly comparable because in the 2012 survey the activity options were not all read aloud by the telephone interviewer (participation was asked as an open-ended question), while in 2017, each activity was read as a separate question to obtain the number of days of participation. In addition to being asked what outdoor activities they participate in, respondents were also asked to identify the activity that is most important to them. Walking outdoors, including dog walking, was identified by 26 percent of respondents as the most important. Relaxing outdoors (7 percent), big-game hunting (7 percent), visiting parks or playgrounds (5 percent), camping (5 percent), and jogging/running (5 percent) were next in order of importance. These findings are similar to the 2012 survey. The order in which the activities were read was randomized for each respondent.

Nearly half (47 percent) of Michigan residents went outside two or more days per week (104 days or more per year) for outdoor recreation of any type. This is similar to the 51 percent who reported going outside for 100 days or more in the 2012 survey. An additional 24 percent of people went outside for recreation once a week or more. Nationwide, the average number of outdoor outings per adult aged 25 and older is just under 73 outings per year (Outdoor Foundation 2017).

Travel Time for Most Important Activity

Adequate availability of outdoor recreation opportunities is directly related to where people are located and the amount of time individuals are willing to travel in order

to participate in specific types of recreation. People are willing to travel varying distances for different activities. For the activity that is most important to them, respondents were asked, on average, what is the longest drive they would be willing to make. Results show that proximity is more important for some outdoor recreation activities than for others. Not surprisingly, respondents are willing to travel greater distances to participate in activities such as camping or hunting and are less willing to travel far for activities such as walking, relaxing, or visiting parks.

- For the activity that is most important to them, nearly 20 percent of respondents did not want to travel more than 30 minutes, on average, to participate in it, while another 24 percent did not want to travel more than one hour (see the statewide frequency report for more information). This is a change from the 2012 survey, which found that 30 percent of people did not want to travel more than 30 minutes. In both 2012 and 2017, walking was the most important activity.
- Those who indicated big-game hunting or any type of camping as the outdoor activity most important to them were more likely to be willing to travel longer distances than those who indicated walking, relaxing outdoors, visiting parks, gardening, or fishing.
- Nearly 32 percent of those who selected big-game hunting and 26 percent of those who selected modern or RV camping as their most important activity are willing to drive more than 11 hours, on average, to participate. This is an increase in willingness to drive from 2012 (above the margins of error) and may be due in part to the improvement in Michigan's economy between 2012 and 2017.

Tools for Planning Outdoor Recreation

A variety of tools are employed by Michigan residents when planning their outdoor recreation, including social media,

magazines, and personal recommendations. Respondents were asked to indicate all of the resources they primarily used in planning their outdoor recreation.

- A majority of respondents rely on advice and/or recommendations from family or friends to plan their outdoor recreation activities or utilize Internet searches (approximately 68 and 55 percent, respectively), while over half utilize previous experiences with a location (54 percent in 2017, up from 47 percent in 2012).
- Around one-third of respondents use such tools as social media or Pure Michigan information or websites to plan their outdoor recreation activities (33 percent and 29 percent, respectively), and a nearly a quarter of respondents use cell phone applications (24 percent), brochures and fliers (22 percent), and magazines or newspapers (21 percent).

Limits to Recreation Use

Public participation in outdoor recreation can be limited by a variety of factors. Respondents were asked to indicate their level of agreement with 15 different reasons why they may not recreate more.

- Dislike of outdoor pests (e.g., mosquitos), lack of time, lack of money, and personal health reasons (49 percent, 38 percent, 32 percent, and 31 percent, respectively) are the primary reasons cited for why respondents do not participate more in outdoor recreation.

Children and Outdoor Recreation

Around 35 percent of survey respondents have at least one child under the age of 18 living in their household. This percentage is similar to the 2015 American Community Survey (ACS) estimate of 30 percent of Michigan households having at least one member under the age of 18. Respondents were asked how many days in the past year one of the children living in their household participated in one or more of 13 specific activities.

- Visiting parks or playgrounds (85 percent), swimming outdoors (76 percent) and sledding or tubing (54 percent) have the highest participation rates by children under the age of 18.
- Children under the age of 18 have higher participation rates than adults for almost all activities. Swimming outdoors and sledding/tubing have significantly higher participation rates for children than adults.

Exhibit B2. Top Seven Outdoor Recreation Activities, Children under Age 18

Activity	Participation Rate
Visiting playgrounds	85%
Swimming outdoors	76%
Sledding/tubing	54%
Fishing	52%
Nonleague team or individual sports	46%
Team or individual sports on a league	44%
Road biking	41%

Source: Public Sector Consultants conducted a statewide recreation telephone survey of Michigan residents on behalf of the Michigan Department of Natural Resources, April–May 2017.

Satisfaction with Michigan Recreation

In the 2012 SCORP survey, we found most residents were happy with the quantity and quality of outdoor recreation available in Michigan. To aid in recreation planning, this question was expanded to incorporate a more local element. For 2017, Michigan residents were asked their satisfaction with the amount and quality of outdoor recreation both in Michigan at large and specifically within 30 minutes of their home.

- Nearly 84 percent of respondents are very satisfied or satisfied with the amount of public outdoor recreation opportunities statewide, and over 82 percent are very satisfied or satisfied with the quality. These percentages are higher than those found in the 2012 and 2007 SCORP surveys, which indicated that around 79 percent and 70 percent, respectively, were satisfied with the amount of opportunity and around 77 percent and 42 percent, respectively, were satisfied with the quality. While the 2012 and 2017 numbers are not different beyond the survey's margins of error, the trend indicates an increasing satisfaction with the quantity and quality of outdoor recreation over time.
- Just under three-quarters of respondents are satisfied or very satisfied with the amount and quality of outdoor recreation within a half hour of their home (73 percent and 74 percent, respectively). People in Michigan are slightly less happy with the quantity and quality available close to their homes than with recreation that is available in the state as a whole.

Demographic Breakdowns

Michigan is a large state whose residents differ greatly on their interests, passions, and priorities. There are differences

in participation rates in outdoor recreation, the frequency with which people recreate, and the perception of the quantity and quality of outdoor recreation. By breaking down the survey responses into demographic groups, the MDNR can more fully evaluate the needs of Michigan residents. The state can begin to examine how different groups of residents feel and work toward enhancing equity in the provision of outdoor recreation.

Selected Findings by Race/Ethnicity and Age

The large statewide sample size of the citizen survey for 2017 allows for a more detailed look at participation rates and satisfaction with outdoor recreation, broken down by race/ethnicity and age groups. The following are selected findings.

- Three out of five of Michigan’s black or African-American and Hispanic, Latino- or Spanish-origin residents participate in outdoor recreation, compared to white, non-Hispanics who participate at a rate of over four out of five).
- Those aged 25–34 and 45–54 had the highest rates of outdoor recreation participation (around 9 out of 10 people).
- While residents aged 25–34 have one of the highest participation rates, they are the least likely age group to recreate outdoors more than four times per week (12 percent).
- White, non-Hispanic residents are more likely to be very satisfied with the amount of public outdoor recreation opportunities in Michigan overall than other racial groups (43 percent very satisfied, with other rates of very satisfied ranging from only 21 to 32 percent).
- One out of five of Michigan’s black or African-American; Hispanic, Latino- or Spanish-origin; or any other non-white race residents are dissatisfied or very dissatisfied with the amount of outdoor recreation within a half hour of their home, compared to only one out of ten white, non-Hispanic residents that are dissatisfied or very dissatisfied.

- One out of five of Michigan’s black or African-American residents are dissatisfied or very dissatisfied with the quality of outdoor recreation within a half hour of their home, compared to less than one out of ten white, non-Hispanic and Hispanic, Latino- or Spanish-origin residents that are dissatisfied or very dissatisfied.

The following exhibits present the cross-tabulation analysis of selected survey questions by race and age. They have been condensed for presentation purposes, but the full analysis is available in Michigan Outdoor Recreation Telephone Survey: Frequency Reports.

Survey Question 5: During the past year, did you participate in any outdoor recreation activities in Michigan? For example, have you walked, hiked, biked, or participated in some other type of outdoor recreation activity at parks, open spaces, or in your neighborhood?

Exhibit B3. Participation in Outdoor Recreation of Any Kind, by Race

Response	Black or African American	Hispanic, Latino or Spanish Origin	White, Non-Hispanic	All Other Races
a) Yes	60.1%	58.9%	84.2%	74.7%
b) No	39.9%	41.1%	15.6%	25.3%
c) I'm not sure	0.0%	0.0%	0.2%	0.0%

Note: Totals may not add to 100 due to rounding.

Exhibit B4. Participation in Outdoor Recreation of Any Kind, by Age

Response	Age 18–24	Age 25–34	Age 35–44	Age 45–54	Age 55–64	Age 65+
a) Yes	84.2%	87.1%	79.9%	90.0%	70.7%	65.4%
b) No	15.8%	12.0%	20.1%	10.0%	29.3%	34.6%
c) I'm not sure	0.0%	0.8%	0.0%	0.0%	0.0%	0.0%

Note: Totals may not add to 100 due to rounding.

Survey Question 6: During the past year, on average, how often did you enjoy outdoor recreation?

Of the USER group...

Exhibit B5. Frequency of Outdoor Recreation, by Race

Response	Black or African American	Hispanic, Latino or Spanish Origin	White, Non-Hispanic	All Other Races
a) Never	1.6%	0.0%	0.7%	0.0%
b) Less than once per week	10.9%	16.3%	9.0%	9.4%
c) Once per week	25.8%	25.6%	30.0%	37.5%
d) Two to four times per week	47.7%	53.5%	40.5%	35.9%
e) More than four times per week	13.3%	4.7%	19.3%	15.6%
f) Don't know/ Refused	0.8%	0.0%	0.5%	1.6%

Note: Totals may not add to 100 due to rounding.

Exhibit B6. Frequency of Outdoor Recreation, by Age

Response	Age 18–24	Age 25–34	Age 35–44	Age 45–54	Age 55–64	Age 65+
a) Never	0.0%	0.0%	0.0%	1.9%	0.0%	1.5%
b) Less than once per week	12.4%	11.3%	7.7%	8.5%	7.2%	10.7%
c) Once per week	22.4%	29.7%	38.3%	27.3%	30.9%	29.6%
d) Two to four times per week	47.6%	47.2%	37.8%	41.5%	40.7%	34.7%
e) More than four times per week	17.6%	11.8%	15.8%	20.8%	20.1%	21.4%
f) Don't know/ Refused	0.0%	0.0%	0.5%	0.0%	1.0%	2.0%

Note: Totals may not add to 100 due to rounding.

Michigan Recreation Opportunities (All)

Survey Question 14: How satisfied are you with the amount of public outdoor recreation opportunities in Michigan, overall?

Exhibit B7. Satisfaction with the Amount of Public Outdoor Recreation Opportunities in Michigan Overall, by Race

Response	Black or African American	Hispanic, Latino or Spanish Origin	White, Non-Hispanic	All Other Races
a) Very satisfied/ Satisfied	71.8%	84.7%	86.5%	79.3%
b) Neither satisfied nor dissatisfied	19.2%	4.2%	9.2%	6.9%
c) Very dissatisfied/ Dissatisfied	8.9%	11.1%	3.8%	13.8%
d) Don't know/ Refused	0.0%	0.0%	0.5%	0.0%

Note: Totals may not add to 100 due to rounding.

Exhibit B8. Satisfaction with the Amount of Public Outdoor Recreation Opportunities in Michigan Overall, by Age

Response	Age 18–24	Age 25–34	Age 35–44	Age 45–54	Age 55–64	Age 65+
a) Very satisfied/ Satisfied	83.3%	86.3%	80.8%	85.1%	82.4%	86.3%
b) Neither satisfied nor dissatisfied	9.4%	10.4%	11.8%	9.4%	12.9%	7.7%
c) Very dissatisfied/ Dissatisfied	7.4%	3.3%	7.3%	5.6%	4.0%	4.7%
d) Don't know/ Refused	0.0%	0.0%	0.0%	0.0%	0.7%	1.3%

Note: Totals may not add to 100 due to rounding.

Survey Question 15: How satisfied are you with the amount of public outdoor recreation opportunities within a half hour of your home?

Exhibit B9. Satisfaction with The Amount of Public Outdoor Recreation Opportunities Within a Half Hour of Home, by Race

Response	Black or African American	Hispanic, Latino or Spanish Origin	White, Non-Hispanic	All Other Races
a) Very satisfied/ Satisfied	64.5%	61.6%	75.5%	63.6%
b) Neither satisfied nor dissatisfied	14.0%	19.2%	14.0%	14.8%
c) Very dissatisfied/ Dissatisfied	21.5%	19.2%	9.7%	20.5%

Response	Black or African American	Hispanic, Latino or Spanish Origin	White, Non-Hispanic	All Other Races
d) Don't know/ Refused	0.0%	0.0%	0.8%	1.1%

Note: Totals may not add to 100 due to rounding.

Exhibit B10. Satisfaction with the Amount of Public Outdoor Recreation Opportunities Within a Half Hour of Home, by Age

Response	Age 18–24	Age 25–34	Age 35–44	Age 45–54	Age 55–64	Age 65+
a) Very satisfied/ Satisfied	74.8%	67.6%	69.3%	72.2%	69.6%	81.0%
b) Neither satisfied nor dissatisfied	14.9%	19.9%	10.2%	17.4%	15.8%	9.0%
c) Very dissatisfied/ Dissatisfied	10.4%	12.4%	20.5%	10.4%	12.8%	8.7%
d) Don't know/ Refused	0.0%	0.0%	0.0%	0.0%	1.8%	1.3%

Note: Totals may not add to 100 due to rounding.

Survey Question 16: How satisfied are you with the quality of public outdoor recreation opportunities in Michigan, overall?

Exhibit B11. Satisfaction with the Quality of Public Outdoor Recreation Opportunities in Michigan Overall, by Race

Response	Black or African American	Hispanic, Latino or Spanish Origin	White, Non-Hispanic	All Other Races
a) Very satisfied/ Satisfied	69.0%	75.0%	85.7%	73.3%
b) Neither satisfied nor dissatisfied	15.5%	12.5%	11.7%	14.0%
c) Very dissatisfied/ Dissatisfied	15.0%	12.5%	2.5%	12.8%
d) Don't know/ Refused	0.5%	0.0%	0.1%	0.0%

Note: Totals may not add to 100 due to rounding.

Exhibit B12. Satisfaction with the Quality of Public Outdoor Recreation Opportunities in Michigan Overall, by Age

Response	Age 18–24	Age 25–34	Age 35–44	Age 45–54	Age 55–64	Age 65+
a) Very satisfied/ Satisfied	80.2%	81.3%	79.5%	83.3%	80.7%	86.7%
b) Neither satisfied nor dissatisfied	13.9%	15.8%	9.8%	14.2%	13.9%	8.0%
c) Very dissatisfied/ Dissatisfied	5.9%	2.9%	10.7%	2.4%	4.7%	5.3%
d) Don't know/ Refused	0.0%	0.0%	0.0%	0.0%	0.7%	0.0%

Note: Totals may not add to 100 due to rounding.

Survey Question 17: How satisfied are you with the quality of public outdoor recreation opportunities within a half hour of your home?

Exhibit B13. Satisfaction with the Quality of Public Outdoor Recreation Opportunities Within a Half Hour of Home, by Race

Response	Black or African American	Hispanic, Latino or Spanish Origin	White, Non-Hispanic	All Other Races
a) Very satisfied/ Satisfied	65.0%	67.1%	76.9%	61.6%
b) Neither satisfied nor dissatisfied	15.4%	24.7%	14.5%	17.4%
c) Very dissatisfied/ Dissatisfied	18.7%	8.2%	8.4%	20.9%
d) Don't know/ Refused	1.0%	0.0%	0.2%	0.0%

Note: Totals may not add to 100 due to rounding.

Exhibit B14. Satisfaction with the Quality of Public Outdoor Recreation Opportunities Within a Half Hour of Home, by Age

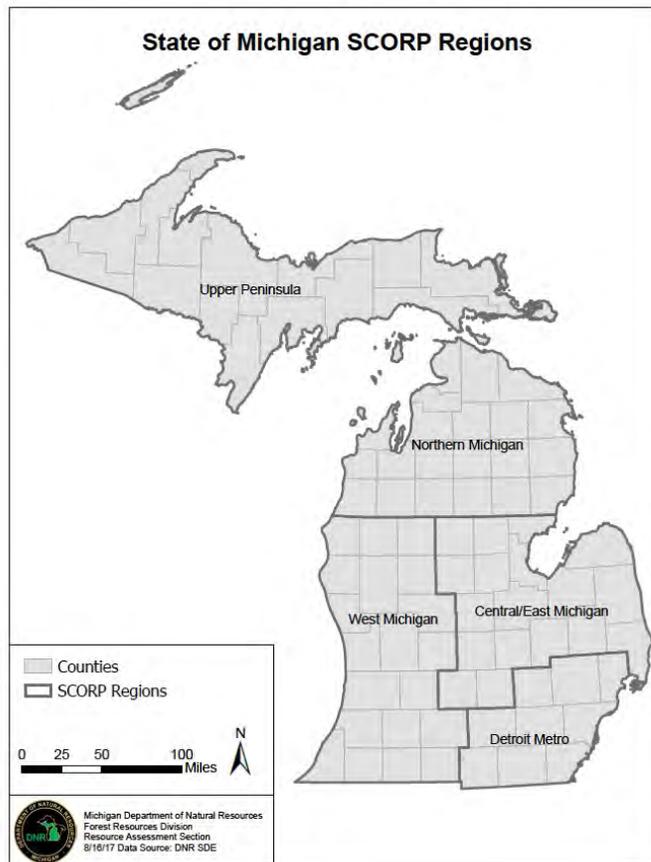
Response	Age 18–24	Age 25–34	Age 35–44	Age 45–54	Age 55–64	Age 65+
a) Very satisfied/ Satisfied	75.2%	69.7%	75.3%	73.6%	70.6%	79.1%
b) Neither satisfied nor dissatisfied	12.4%	16.6%	14.4%	15.6%	19.5%	12.6%
c) Very dissatisfied/ Dissatisfied	12.4%	13.7%	10.3%	10.8%	8.5%	8.3%
d) Don't know/ Refused	0.0%	0.0%	0.0%	0.0%	1.5%	0.0%

Note: Totals may not add to 100 due to rounding.

Regional Results

In 2017, the SCORP citizen survey was expanded from the previous SCORP plan to gather more responses across the state and allow for analysis by regions. This provides the opportunity to examine the needs and issues relevant in different parts of the state and helps in targeting activities and support. The full regional analysis is available in Michigan Outdoor Recreation Telephone Survey: Frequency Reports. Exhibit B15 shows how the state was divided for survey analysis purposes.

Exhibit B15. Regional Breakdown of Michigan



Source: Michigan Department of Natural Resources.

Upper Peninsula

A total of 300 survey responses were collected from Michigan's Upper Peninsula. Survey responses were rake weighted to more accurately reflect the region's demographic profile and have an adjusted margin of error of 7.6 percent.⁵ Caution should be taken when comparing findings to those of other regions due to the error rates present in both analyses.

Selected Key Findings

- Nearly 87 percent of Upper Peninsula residents feel that outdoor recreation is very important or moderately important to their household.
- Almost nine out of ten Upper Peninsula respondents are satisfied or very satisfied with the amount and quality of outdoor recreation in Michigan (around 86 and 85 percent, respectively).
- Over three-quarters of Upper Peninsula respondents are satisfied or very satisfied with the amount and quality of outdoor recreation within a half hour of their home (81 percent and 82 percent, respectively).
- Walking outdoors, including dog walking, was identified by 27 percent of Upper Peninsula users as the most important outdoor activity to them.
- Nine out of ten (93 percent) outdoor recreation participants who reside in the Upper Peninsula went outside 52 or more days during the year for outdoor recreation of any type, with 75 percent doing so for more than 100 days.
- Most Upper Peninsula outdoor recreation participants utilize recommendations from family and friends (64 percent), followed by previous experiences with a location (60 percent) to plan for their outdoor recreation activities.

⁵ See the methodology section for more detail on rake weights and the calculation of appropriate error rates.



- Household members under the age of 18 also participated in outdoor recreation, with visiting parks or playgrounds (89 percent), swimming outdoors (79 percent), and sledding or tubing (70 percent) having the most participants in the Upper Peninsula.

Northern Michigan

A total of 300 survey responses were collected from Northern Michigan. Survey responses were rake weighted to more accurately reflect the region’s demographic profile and have an adjusted margin of error of 6.6 percent. Caution should be taken when comparing findings to those of other regions due to the error rates present in both analyses.

Selected Key Findings

- Over 88 percent of Northern Michigan residents feel that outdoor recreation is very important or moderately important to their household.
- Around nine out of ten Northern Michigan respondents are satisfied or very satisfied with the amount and quality of outdoor recreation in Michigan (around 87 and 90 percent, respectively).
- Eight out of ten Northern Michigan respondents are satisfied or very satisfied with the amount and quality of outdoor recreation within a half hour of their home (82 percent and 82 percent, respectively).
- Walking outdoors, including dog walking, was identified

by 19 percent of Northern Michigan participants as the most important outdoor activity to them.

- Nearly 95 percent of outdoor recreation participants who reside in Northern Michigan went outside 52 or more days during the year for outdoor recreation of any type, with nearly 68 percent doing so for more than 100 days.
- Most Northern Michigan outdoor recreation participants utilize recommendations from family and friends (62 percent), followed by previous experiences with a location (58 percent) to plan for their outdoor recreation activities.
- Household members under the age of 18 also participated in outdoor recreation, with visiting parks or playgrounds (81 percent), swimming outdoors (78 percent), and sledding or tubing (68 percent) having the most participants in Northern Michigan.

West Michigan

A total of 300 survey responses were collected from West Michigan. Survey responses were rake weighted to more accurately reflect the region’s demographic profile and have an adjusted margin of error of 7.1 percent. Caution should be taken when comparing findings to those of other regions due to the error rates present in both analyses.

Selected Key Findings

- Nearly 82 percent of West Michigan residents feel that outdoor recreation is very important or moderately important to their household.
- More than three-quarters of West Michigan respondents are satisfied or very satisfied with the amount and quality of outdoor recreation in Michigan (around 83 and 84 percent, respectively).
- More than three-quarters of West Michigan respondents are satisfied or very satisfied with the amount and quality of outdoor recreation within a half hour of their

home (82 percent and 81 percent, respectively).

- Walking outdoors, including dog walking, was identified by over 29 percent of West Michigan outdoor recreation participants as the most important outdoor activity to them.
- Over 92 percent of outdoor recreation participants who reside in West Michigan went outside 52 or more days during the year for outdoor recreation of any type, with over 65 percent doing so for more than 100 days.
- Most West Michigan outdoor recreation participants utilize recommendations from family and friends (69 percent), followed by previous experiences with a location (60 percent) to plan for their outdoor recreation activities.
- Household members under the age of 18 also participated in outdoor recreation, with visiting parks or playgrounds (89 percent), swimming outdoors (84 percent), and fishing (61 percent) having the most participants in West Michigan.

Central/East Michigan

A total of 300 survey responses were collected from Central/East Michigan. Survey responses were rake weighted to more accurately reflect the region's demographic profile and have an adjusted margin of error of 6.8 percent. Caution should be taken when comparing findings to those of other regions due to the error rates present in both analyses.

Selected Key Findings

- Over 83 percent of Central/East Michigan residents feel that outdoor recreation is very important or moderately important to their household.
- Close to nine out of ten Central/East Michigan respondents are satisfied or very satisfied with the amount and quality of outdoor recreation in Michigan (around 84 and 87 percent, respectively).

- Just under three-quarters of Central/East Michigan respondents are satisfied or very satisfied with the amount and quality of outdoor recreation within a half hour of their home (70 percent and 73 percent, respectively).
- Walking outdoors, including dog walking, was identified by 22 percent of Central/East Michigan outdoor recreation participants as the most important outdoor activity to them.
- Over 91 percent of outdoor recreation participants who reside in Central/East Michigan went outside 52 or more days during the year for outdoor recreation of any type, with nearly 62 percent doing so for more than 100 days.
- Most Central/East Michigan outdoor recreation participants utilize recommendations from family and friends (71 percent), followed by previous experiences with a location (61 percent) to plan for their outdoor recreation activities.
- Household members under the age of 18 also participated in outdoor recreation, with swimming outdoors (85 percent), visiting parks or playgrounds (83 percent), and sledding or tubing (63 percent) having the most participants in Central/East Michigan.

Metro Detroit

A total of 350 survey responses were collected from Metro Detroit. Survey responses were rake weighted to more accurately reflect the region's demographic profile and have an adjusted margin of error of 6.8 percent. Caution should be taken when comparing findings to those of other regions, due to the error rates present in both analyses.

Selected Key Findings

- Nearly 75 percent of Metro Detroit residents feel that outdoor recreation is very important or moderately important to their household.
- Around three-quarters of Metro Detroit respondents

are satisfied or very satisfied with the amount and quality of outdoor recreation in Michigan (around 82 and 71 percent, respectively).

- Around three-quarters of Metro Detroit respondents are satisfied or very satisfied with the amount and quality of outdoor recreation within a half hour of their home (78 percent and 71 percent, respectively).
- Walking outdoors, including dog walking, was identified by 26 percent of Metro Detroit users as the most important outdoor activity to them.
- Eighty-seven percent of outdoor recreation participants who reside in Metro Detroit went outside 52 or more days in the year for outdoor recreation of any type, with nearly 54 percent doing so for more than 100 days.
- Most Metro Detroit outdoor recreation participants utilize recommendations from family and friends (68 percent), followed by Internet searches (60 percent) or previous experiences with a location (50 percent) to plan for their outdoor recreation activities.
- Household members under the age of 18 also participated in outdoor recreation, with visiting parks or playgrounds (83 percent), swimming outdoors (68 percent), and participating in team or individual sports (46 percent for on a league and 45 percent for nonleague sports) having the most participants in Metro Detroit.

Conclusion

With limited funding available in Michigan, it is important that MDNR activities are in line with the greatest needs and wants of Michigan citizens. This statewide citizen survey was designed to help the MDNR understand residents' participation in and satisfaction with Michigan outdoor recreation. Additionally, the 2017 survey was modified from the previous version to gather total days of participation for 34 separate activities. This sets the stage for future analysis on the economic contribution of outdoor recreation in Michigan. Due to the change in methodology from the 2012 survey, participation rates for specific activities (unless otherwise noted) are not directly comparable.

The activities respondents participate in and find most important are as varied as the citizens of Michigan themselves. The state has high rates of participation in outdoor recreation and frequency of use, but there are differences between various demographic groups. This analysis can aid in targeting activities or campaigns to increase user participation for all populations by strategically targeting outreach. Overall, the majority of Michigan residents are satisfied with the amount and quality of outdoor recreation available in Michigan, and while satisfied with the quantity and quality of opportunities within a half hour of their home, they are less satisfied with what is available near where they live than with what is available around the state in general. However, there are significant differences in satisfaction levels between racial groups that need to be addressed to ensure adequate access and opportunity for all segments of Michigan's population.

Methodology

The citizen survey was implemented between April 7 and May 6, 2017, and responses were collected from 1,550 Michigan residents aged 18 and over. The sample targeted a 45 percent landline and 55 percent cell phone random-digital-dial sample, with targets set for reaching age and race subgroups. In total, 852 responses were from cell phones and 698 responses were from landlines. The sample was divided into five regions of the state, with a minimum of 300 responses per region (with 45 percent landline and 55 percent cell sample targeted for each) to allow for individual regional analysis. Statistical results are weighted to correct for sample and actual population demographic differences, including regional share of the statewide population.

Raking was used to weight the statewide and regional analyses. Rake weights for the statewide analysis were trimmed using five times the mean weight so that no individual responses were given too much or too little effect on the overall results. Trimmed weights were then reraked and this process was repeated with trimming applied for each iteration until all weights were within five times the mean, plus one (Peck 2011). Discontinuing rake weighting is also supported by other guidelines which suggest higher trim values than those incorporated in this analysis.⁶ Trimming of rake weights was not needed in the regional analyses.

The margin of sampling error for weighted data is higher than that of unweighted data. The design effects (deff) and new survey margin of error for the weighted survey were calculated, with a statewide deff of 1.2 and a new survey margin of error of .02987, or 3 percent (Pew 2010). The 3 percent survey margin of error is only slightly higher than the unweighted survey margin of error of 2.5 percent.

The regional deff and survey margins of error are: Upper Peninsula, 1.34 and 7.6 percent; Northern Michigan, 1.16 and 6.6 percent; West Michigan, 1.27 and 7.1 percent; Central/East Michigan, 1.20 and 6.8 percent; Metro Detroit, 1.20 and 6.8 percent. Overall, the slight decline in the survey's margin of error and the small deff are acceptable for the reduction in bias that weighting of the survey provides.

⁶ One method for trimming weights is using the median weight plus five (or six) times the inner quartile range. Using this methodology results in a top trim value of $0.7433 + 5 * 1.1637 = 6.56$.



Appendix C. The Role of Outdoor Recreation in Advancing Michigan's Economy

Introduction

Michigan has been endowed with abundant and unique assets for outdoor recreation—from its inland lakes and streams, local trails, and greenways, to iconic places such as Pictured Rocks National Lakeshore, Sleeping Bear Dunes National Lakeshore, Tahquamenon Falls, and Belle Isle. These resources provide opportunities for residents and visitors to get outside and enjoy nature, exercise, spend time with family and friends, and even compete in races and other recreational challenges. They provide physical and mental health benefits, help strengthen social fabric, and connect people to each other and their communities. They also provide substantial economic benefits for the state and its residents.

Numerous studies over the last few decades have documented the positive economic impacts of parks and outdoor recreation spaces, including national-, state-, and park-specific studies on recreational expenditures, associated trip amenities (such as lodging or restaurants), property value increases, and indirect economic benefits that ripple through communities. There has been less analysis and discussion, however, of how states and communities can actively leverage these benefits as part of their economic development toolbox in order to create comparative economic advantages.

In order to utilize Michigan's outdoor recreation assets to help drive the state's prosperity, the state and its communities must not only recognize and understand the economic benefits that these resources provide, but also integrate outdoor recreation needs and investments into state and local economic development plans and efforts. Governor Snyder's Building the 21st Century Economy Commission report identified "ensuring the quality of and access to our natural resources, fresh water, and recreation" as a key recommendation to help attract and retain talent in Michigan (2017). With careful research and

targeted investment, local governments can grow their economies by developing outdoor recreation facilities and investing in outdoor recreation programs.

To help further these efforts, the MDNR expanded the 2017 statewide SCORP citizen survey to ask residents more specifically about the amount of time they spend recreating outdoors for 34 separate activities. The expanded survey allowed for the collection of participant days that can be extrapolated to the broader Michigan population, adjusted for accuracy according to known data, combined with estimated per-day costs for the various activities, and used to estimate the economic contribution these outdoor recreation activities play in Michigan's economy. This data collection sets the stage for future analysis and provides critical pieces of the puzzle—participation rates and participant days for Michigan residents.

How Important is the Outdoor Recreation Economy?

Outdoor recreation has a big economic impact across the nation. It helps drive economic activity in the communities surrounding recreation destinations and can be particularly important in rural areas (White et al. 2016). The Outdoor Industry Association (OIA) has released numerous reports on user trends and the economic significance associated with these trends. In their 2017 report, *The Outdoor Recreation Economy*, the association estimates the contribution of outdoor recreation to the national economy in 2016 (Outdoor Industry Association 2017a). According to this study, outdoor recreation in 2016:

- Generated 7.6 million American jobs across the service, manufacturing, management, and sales sectors
- Accounted for \$887 billion of user spending on gear, equipment, and trip-related expenses, behind only healthcare, and financial services and insurance spending

Backcountry North

Year Founded: 1978

Location: Traverse City and Birmingham, Michigan

Backcountry North—100 percent Michigan owned—is Michigan's largest independent outdoor specialty retailer. It not only equips the state's outdoor enthusiast, it also actively supports local land and water conservation. Tracy Mayer, owner of Backcountry North, grew up in Traverse City and knows the importance of conserving our Great Lakes land. In Southeast Michigan, Backcountry North has teamed up with Six Rivers Land Conservancy to sponsor the conservancy's Adventure League. The Adventure League encourages the public to discover Southeast Michigan's wealth of outdoor recreation opportunities by inviting residents outside to hike, bike, and kayak. In the Grand Traverse region, Backcountry North supports the Boardman River restoration, and in partnership with national brands such as Patagonia, the company has provided funds for local river cleanups throughout the year.

- Generated \$65.3 billion in federal tax revenue and \$59.2 billion in state/local tax revenue⁷

The OIA recently released statewide estimates of the economic impact of outdoor recreation. They estimate that 63 percent of Michigan residents participate in outdoor recreation each year. This is below the MDNR statewide citizens survey findings, but the difference is most likely due to the different definitions of what constitutes outdoor recreation; the MDNR survey used a more expansive definition. According to the OIA study, outdoor recreation in 2016:

- Generated 232,000 Michigan jobs and \$7.5 billion in wages and salaries directly related to the outdoor recreation sector
- Accounted for \$22.6 billion of user spending on gear, equipment, and trip-related expenses in Michigan
- Generated \$2.1 billion in state/local tax revenue in Michigan

A report on the economic contribution of national parks showed that visitors spent \$18.4 billion in the local area (within 60 miles) surrounding a national park, contributed 318,000 jobs, and drove \$34.9 billion in economic output (National Park Service 2017). In Michigan alone, the national parks drew 2.7 million visitors who spent \$235 million in the local area (National Park Service 2017). Analysis on the impact of federal lands found that recreation participants spent at least \$51 billion in the local area around the federal lands in which they were recreating (English et al. 2014).

In the past decade, the role of parks and outdoor recreation resources in advancing economic well-being has received increasing attention in Michigan as it becomes clear how these resources provide significant economic returns to the state. A study by the Land Policy Institute at Michigan

State University isolated variables that have an effect on population and economic performance of communities in Michigan. The study included 27 natural asset variables (e.g., state forest campgrounds, trout streams, marinas) to determine whether a causal relationship exists between these variables and population, income, and employment levels. In other words, the study tested whether the variables have a positive, negative, or negligible effect on communities, and found that over half the natural asset variables had at least one positive cumulative impact on resident population, income, or employment levels. Seven of the natural asset variables had only positive cumulative effects on both employment and population levels. These variables are Great Lakes shoreline, presence of a trout stream, miles of pristine or no-impact streams, percentage of functional subwatersheds (river systems with minimal human impact), state forest campgrounds, presence of identified trails, and boat launches (Adelaja et al. 2012).

Parks and outdoor recreation resources contribute to state and local economic prosperity primarily by:

- Helping to create vibrant communities that attract businesses and talented workers
- Attracting visitors to specific locations and regions, bringing new dollars into the state
- Spurring recreation-serving business creation and expansion through direct demand and expenditures by recreationists for gear, vehicles, and recreation services (e.g., outfitters, guides)
- Increasing property values (and resulting tax revenues) for adjacent properties and neighborhoods

Although less tangible, recreation resources play a role in increasing participation in exercise and reducing stress, thereby providing economic benefits by lowering the costs of addressing chronic healthcare issues. This could be

particularly relevant for a state such as Michigan, which has the 16th highest obesity rate (31.2 percent) in the United States (State of Obesity 2017a; State of Obesity 2017b).

Creating Vibrant Communities

Michigan's outdoor recreation resources provide a competitive advantage in today's economy, where "place" and quality of life are key drivers of talent and business location decisions. Few states in the country offer natural assets comparable to those found in Michigan.

Public open spaces, such as parks, trail systems, bike lanes, and greenways can contribute substantially to a community's quality of life, which is an important consideration when people are deciding where to live. Businesses also consider these community amenities when determining where to locate their operations because quality of life is an important factor in attracting and retaining talented professionals. High-quality outdoor spaces that offer a wide range of recreation options can play an important role in business and residential attraction and retention.

Through much of the 1900s, economic development strategies frequently emphasized production-based models that focused on converting raw materials into durable and nondurable goods. These strategies frequently included providing access to raw materials, capital, skilled labor, industrial facilities, and transportation systems, and regions that offered all of these were likely to succeed.

As the pace of globalization has increased and employment in U.S. manufacturing has declined, the U.S. has moved away from this model of economic prosperity. Technological innovation has also created conditions where information can be exchanged more readily, such

⁷ The study included the following outdoor recreation activities: bicycling, camping, fishing, hunting, motorcycling, off-roading, snow sports, trail sports, water sports, and wildlife viewing.

that nonresource-specific employment (e.g., professional services) is less dependent on location than in the past. Thus, professional service providers (sometimes referred to as the creative class or knowledge workers) have more flexibility in where they choose to work or locate a business. Given this flexibility, they tend to place greater emphasis on prospective communities' quality of life in their decision making (Florida 2002; Adelaja et al. 2009). For Michigan to be competitive in a changing economy, its communities and regions will need to appeal to the knowledge workers who are a driving force in the new economy. High-quality outdoor recreation amenities can be a key component of community attractiveness.

Attracting Visitors

A recent study, *The Economic Impact of Travel in Michigan*, estimated that the traveler economy supports approximately 326,685 jobs and an income of \$10.6 billion. Of the \$22.3 billion travelers spent in Michigan in 2014, 14.5 percent of this, or \$3.3 billion, went to recreation and entertainment (Tourism Economics 2014). The National Park Service estimated that Michigan had 2.7 million visitors to the national parks alone in 2016. They are estimated to have spent \$235.0 million in the region surrounding the parks and contributed 3,767 jobs and \$333.6 million in economic output (National Park Service 2017). In an effort to capture a greater portion of the national tourism and outdoor recreation market, Michigan has continued to invest significant resources in its *Pure Michigan* campaign to attract tourists to the state, and most of the advertisements for this effort focus on Michigan's natural features and outdoor recreation opportunities.

The MEDC tracks visitors to the state and evaluates the return on investment from the *Pure Michigan* campaign. The *2010 Michigan Visitor Profile* compiled for

the MEDC shows that "Michigan leisure is up in every volume metric: visitors, [number of] parties, days spent at the destination, and direct spending" (D.K. Shifflet & Associates 2011). The 2014 report *The Economic Impact of Travel in Michigan* shows that trend is continuing, with total visitation reaching 113.4 million visitors and travel spending reaching \$22.8 billion by 2014. In the past four years, traveler spending has increased 3.7 percent per year and leisure travelers make up 72.6 percent of all traveler spending (Tourism Economics 2014). While the profile is not specific to outdoor recreation and its economic significance in Michigan, it provides useful information about tourism in the state and offers some perspective on visitor demographics and preferences that the state and communities can use in marketing Michigan's extensive outdoor recreation opportunities.

As of 2011, recreation activities ranked fairly low in terms of overall activities in which visitors participate when they come to Michigan. Dining (31 percent), shopping (24 percent), and entertainment (23 percent) are the highest ranked activities, while 4 percent or less of visitors participated in camping, hiking, biking, hunting, fishing, ecotourism, national or state park visits, sailing, and snow skiing in 2011. Several of these activities, however, have high per-party trip spending, so while these may not be visitors' most popular activities, they still make an important economic contribution (D.K. Shifflet & Associates 2011).

In addition to the *2014 Economic Impact of Travel in Michigan* report, there have been many studies on trip spending associated with specific types of outdoor recreation in Michigan. For example, the 2010 *Michigan Licensed ORV Use and Users* study analyzed the economic significance of off-road vehicle use in Michigan on public lands during a 12-month period in 2008–2009. The study estimated economic contributions of equipment purchases and trip spending, and isolated ORV trip spending by out-of-state

Shaggy's Copper Country Skis

Year Founded: 2005

Location: Boyne City, Michigan

Shaggy's, located in Boyne City, Michigan, is a small, family-run business that grew from the recreation interests of a father and his sons. They began making handcrafted skis in 2005 and launched their business and name in 2008. They are following their passion and sharing it with others. Michiganders aren't just hitting their home trails with Shaggy's, said John Thompson, co-founder and co-owner, "Transplants will come back to Northern Michigan and take a set of our skis home with them. They love the idea of having a pair of handcrafted skis from their home state that can perform well on big mountains. Not many people have an emotional attachment to their skis, but ours remind their riders of their homes and families in Northern Michigan."

users. The study found that these users spent \$16.8 million, which rippled through the economy and accounted for over \$20 million in total sales, 174 jobs, and \$6.7 million in labor income.

Many communities are realizing the economic value that comes with being an ongoing hub of outdoor recreation activities (by providing infrastructure or supporting recreational clubs and constituent groups) or offering



annual recreation events to attract visitors to their communities. Special event recreational opportunities, such as running, cycling, triathlons, boat races, disc golf competitions, equestrian events, or recreation-oriented festivals are becoming increasingly popular and can bring a significant, short-term economic boost to communities. Michigan hosted more than 450 race- or tour-oriented events (e.g., running, cycling, duathlon, triathlon, adventure racing) in 2012, for example, which attract residents as well as national and international visitors.

Recreation-Serving Business Creation and Expansion

While outdoor recreation has always driven the creation and expansion of related businesses, such as bike shops, camping supply outfitters, and guide services, the growing diversity of recreational opportunities and demand for increasingly advanced recreational technology, materials, and equipment are driving entrepreneurialism and business opportunities in this sector (Outdoor Industry Association 2017a).

The impact of recreation on job creation and tax revenue goes well beyond the traditional park ranger, fishing guide, or ORV salesman. Business opportunities associated with outdoor recreation include technology and digital applications, design and manufacturing of gear and apparel, ecotourism guides, expanded gear shops (e.g., bikes, outfitters), and visitor-based recreation services, such as dining and lodging. As noted above, the Outdoor Industry Association estimated \$887 billion of national user spending on gear, equipment, and trip-related expenses in 2016, behind only healthcare and financial services and insurance spending (Outdoor Industry Association 2017a).

Several studies have also looked at the economic impact of specific sections of Michigan's outdoor recreation economy, including snowmobiling, ORV use, trails,

and boating (Nelson et al. July 2010; U.S. Army Corps of Engineers 2008; and Adelaja et al. 2010). A study on the direct and indirect impact of boating in the state, for example, found that Great Lakes boaters spend over \$1.5 billion on annual direct and secondary watercraft-related sales, and support over 50,000 jobs related to watercraft sales and trips (U.S. Army Corps of Engineers 2008).

Public-private partnerships may provide new and unique opportunities for enhanced recreation and local business development. If Michigan continues to grow its outdoor recreation industry, the impact on sales, jobs, and tax revenues associated with businesses serving this industry could continue to play a significant role in improving Michigan's economic prosperity and revitalizing local communities.

Increased Property Values

Natural resource assets that support outdoor recreation also benefit the economy by increasing property values of privately owned parcels in the vicinity of publicly owned parks, trails, and natural areas. Many communities struggle to recognize the return on investment in parks, trails, or other green infrastructure from increased property values. A study conducted by the Land Policy Institute at Michigan State University in 2007 included a case study and detailed analysis of the contribution of recreation lands on property values in Oakland County, Michigan. This study evaluated the effect of recreation lands and trails on property value based on their proximity to one another. In the analysis, factors such as household square footage, number of bathrooms, and other variables were normalized to isolate the impact of natural resource amenities. Exhibit C1 shows the economic significance of recreation land to properties in Oakland County. The analysis concluded that parks, trails, sidewalks, and pathways that help create walkable communities have a significant positive effect on property values (Adelaja et al. 2007).



Exhibit CI. The Effect of Recreational Amenities on Property Values in Oakland County, Michigan

Location of House from Recreational Land	Increase in Property Value Percentage	Amount Increased
Within 15 meters	+3.1%	+\$7,942.01
15 to 75 meters	+3.2%	+\$8,198.21
76 to 150 meters	+2.2%	+\$5,636.27
151 to 300 meters	+2.6%	+\$6,661.04
301 to 450 meters	Insignificant	N/A
Base comparison: > 450 meters	Base	Base

Source: Adelaja et al. 2007.

Studies in other states dating back two decades have shown the same correlation between property values and proximity to green spaces, parks, and outdoor recreation. The National Park Service conducted a study in 1995 that validates this finding, and a 2001 survey by the National Association of Realtors found that of 87 percent of survey respondents think that good urban neighborhoods have safe and pleasant walking access to parks (National Park Service 1995; A. Nelesen Associates, 2001). A review of over 60 studies on the impact open spaces have on residential property values showed that most increase property values; however, the magnitude depends on the size of the area, its proximity to residences, the type of open space, and the method of analysis (Active Living Research 2010.)

Outdoor Recreation and Asset-based Economic Development

Clearly, the research shows that parks and outdoor recreation provide varied and often significant economic benefits for Michigan and its communities. But how can the state and local communities better leverage these resources as part of their economic development strategies? Asset-based economic development is still a relatively new tool in the economic development toolbox. This approach encourages communities to identify and leverage their regional strengths to compete in arenas in which they have an advantage and are likely to succeed. Asset-based economic development requires a bottom-up approach for asset identification. Individual communities can take stock of their unique assets to determine the areas in which they can invest for the best economic, social, and environmental return. A review of parks and recreation plans across the state found that many communities are documenting their strategic recreational assets, which can then be used to help develop robust economic development strategies.

Michigan's substantial and unique portfolio of developed and undeveloped outdoor recreation amenities makes it a prime location for business and talent attraction, outdoor recreation-oriented tourism, and development of businesses that serve outdoor recreation users. When communities and the state as a whole better understand their outdoor recreation assets and their potential economic benefit, they can prioritize investment in the development and improvement of key outdoor recreation assets and target marketing to relevant demographic and geographic audiences. Ideally, utilizing an asset-based approach would enable the state and communities to better collaborate with each other to address

priority recreation needs and gaps and find ways to link community recreation assets to grow Michigan's overall economy and jobs base.

Using an asset-based approach requires evaluation of existing local, regional, and state recreational amenities; identification of areas of strength based on local assets; identification of gaps in local and regional outdoor recreation infrastructure that would enable communities to expand their economy if addressed; and targeting investment and marketing efforts to attract residents, visitors, and businesses.

To be successful, this approach must fully integrate all of a community's or region's assets and align investment and marketing efforts to meet broad, interconnected goals. In other words, developing and marketing of recreational assets that provide significant economic opportunities for a community must be as important as any other tool or asset in the economic development offering, including cultural centers, business clusters, tax environment, housing prices, schools, and community charm. In addition to their inclusion in recreation or natural resource management plans, projects that support economic development based on outdoor recreation opportunities must be part of regional comprehensive economic development strategies, downtown development plans, master plans, and economic development incentive programs.

Summary and Recommendations

Individual recreation activities (e.g., camping, cycling, or snowmobiling) have varying levels of economic significance for Michigan's economy, but they all contribute to the economic well-being of the state (Adelaja et al. 2012). Going beyond the impact on the economy, natural resource amenities and outdoor recreation contribute to a good overall quality of life that makes Michigan and its communities a desirable place to live, work, and vacation.

In order to enhance the state's green infrastructure (a key asset that enables outdoor recreation), the following recommendations should be considered.

- Provide a wide array of recreation opportunities to accommodate users with different preferences.
- Cluster investments geographically to enhance the desirability of "destination locations."
- Maximize uses that are complementary (e.g., camping and hiking) and minimize conflicting uses (e.g., hunting and Nordic skiing, mountain biking and equestrian trails).
- Connect natural resource assets, such as trails, parks, watercourses, and campgrounds, to the greatest extent possible, and find ways to physically and emotionally connect them to the communities in which they are located.
- Make information about recreation opportunities easily accessible for trip planning at home and while "on the ground." For instance, wayfinding signs in recreation areas could be improved by better marking points of interest and recreation locations. Rivers could be better marked with maps that show possible locations for put in and take out areas.
- Encourage and support community-based recreation events, public-private partnerships, and competitions such as marathons, triathlons, and bicycle or canoe races.
- Continue to encourage and enhance out-of-state visits to Michigan outdoor recreation areas to bring new dollars into the state and help rebrand the state's image from an industrial rust belt state to a vibrant state with healthy, strong communities and bountiful natural resource amenities.
- Continue to strengthen the marketing of the state's outdoor recreation resources through the *Pure Michigan* campaign.

- Integrate parks and outdoor recreation infrastructure and programming investments with other economic development plans and efforts (e.g., community economic development strategies and downtown development plans).



Appendix D. **SCORP Development Team**



MDNR Project Staff

Marc Miller, Regional Initiatives Deputy

Christie Bayus, Grants Program Manager

Dustin Isenhoff, Specialist, Marketing and Outreach Division

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Jonathan Jarosz, Heart of the Lakes

Donna Folland, Oakland County Parks and Recreation Department

Dr. Grenaé Dudley, The Youth Connection

Charles “Chuck” Hoover, Michigan United Conservation Clubs

Lisha Ramsdell, Huron Pines



Appendix E. Summary of SCORP Community Conversations



As part of the update to the Statewide Comprehensive Outdoor Recreation Plan, 13 community conversations were hosted throughout the state. The conversations were facilitated by local and state outdoor recreation leaders and included representatives of public and private recreation providers, conservation organizations, community development organizations, land conservancies, outdoor recreation user groups, and other nonprofit organizations.

The meeting locations and facilitators included:

- Alpena, Abigail Ertel, Huron Pines
- Detroit, Dr. Granae Dudley, The Youth Connection
- Grand Rapids, Ann Conklin, MParks
- Grand Rapids, Marc Miller, MDNR
- Grayling, Jonathan Jarosz, Heart of the Lakes
- Kalamazoo, Ashley Wick, Kalamazoo Nature Center
- Lansing, Ann Conklin, mParks
- Lansing, Marc Miller, MDNR
- Lapeer, Ann Conklin, mParks
- Marquette, Marc Miller, MDNR
- Midland, Ann Conklin, mParks
- Petoskey, Megan Olds, Parallel Solutions
- Traverse City, Megan Olds, Parallel Solutions

The purpose of the meetings was to obtain input on the current state of Michigan's outdoor recreation assets, as well as the role and function of the MDNR and other recreation providers for future outdoor recreation in the state. During the conversations, participants were asked a series of questions about outdoor recreation in Michigan, including:

- How would you describe the current state of Michigan's outdoor recreation?
- What do you consider the top priorities for Michigan and outdoor recreation providers over the next five years?
- How well do the draft objectives align with these priorities for outdoor recreation in Michigan?
- What would make the draft SCORP most useful for recreation providers and decision makers?

This feedback was used to refine objectives and develop action steps for their advancement. Responses to each of the questions are summarized below.

Current State of Michigan's Outdoor Recreation

At all the meetings, participants were generally positive and enthusiastic about Michigan's overall outdoor recreation amenities. Some specific assets identified include:

- High-quality natural resources
- The Great Lakes
- Inland lakes
- Rivers and streams
- A well-developed and growing trail system
- Increased access to state recreation areas from the Recreation Passport
- A significant amount of public lands that support outdoor recreation
- A strong outdoor recreation heritage
- Passion among outdoor recreation stakeholders
- Four-season recreation opportunities

While participants were enthusiastic about the overall state and quality of outdoor recreation in Michigan, they identified numerous challenges and threats to the recreation opportunities, including:

- Lack of information about what opportunities already exist
- Connecting kids to outdoor recreation
- Lack of transportation to access recreation opportunities
- Lack of recreation opportunities that meet the needs of underserved communities
- Inequitable access to recreation opportunities, particularly in urban centers
- Increased resource extraction on state lands

- Lack of sustainable funding to support maintenance of existing recreation infrastructure
- Managing resources for multiple user groups and conflicts that sometimes emerge
- Declining interest in hunting and fishing
- Invasive species
- Climate change
- Deferred maintenance to park facilities during the recession
- Declining parks budgets at the local level
- Inequitable investments in recreation amenities throughout the state
- Desire for more specialized recreational opportunities
- A need to communicate the value of outdoor recreation assets
- A need for better mechanisms to support regional planning for recreation
- Providing responsible access and sustainable management
- More strategic acquisition of public lands
- Increased recreation infrastructure, particularly campgrounds in areas with growing use

Priorities

Participants identified many things they view as a priority for the next five years of outdoor recreation in Michigan. While there was a diverse range of opinions on the priorities, common themes include:

- The need to develop sustainable funding mechanisms to ensure that recreation infrastructure provides Michigan's desired level of service. Current funding mechanisms provide a robust framework for acquisition and development but not maintenance.
- Invasive species continue to threaten Michigan's natural resources and impact outdoor recreation. Invasive species management should be part of recreation planning and management.

- Land and water trails should continue to be a priority for investment that connects recreation assets and communities.
- The outdoor recreation community as a whole should enhance its collaborative efforts to achieve shared objectives.
- Michigan has world-class outdoor recreation assets and infrastructure but it is not always easy to find information about these opportunities. The state and other recreation partners should work to make this information more readily accessible.
- Outdoor recreation amenities should continue to prioritize placemaking to help Michigan communities be desirable places to live and visit.
- Michigan's recreation system should be more accessible to diverse populations and underserved communities.
- Recreation amenities should integrate principles of universal design to serve people with varying levels of ability
- Enhanced promotional efforts have been positive but can overburden some communities and create challenges for resource management. Promotional efforts should be more equitably distributed across the state.
- Education and programming efforts should be enhanced.
- The state should serve as a liaison for recreation stakeholders.
- The state should serve as a conduit for information sharing about recreation opportunities at all levels of government.
- Public transportation access to parks should be enhanced.
- More family-friendly events should be offered.
- Nonmotorized trails should connect parks.
- Investing in older state parks to modernize facilities should be a priority.
- The state and other recreation partners should increase

the use of social media to share information about recreation opportunities.

- The Iron Belle Trail will be a great asset for the state, which should be invested in.
- Recreation partners should develop mechanisms that address financial barriers to recreation.
- Educational efforts with schools should be enhanced at parks.
- Recreation providers should work with user groups to provide access to recreation opportunities while also ensuring that increased access or individual uses do not harm natural resources.

DNR Draft SCORP Objectives

Generally, participants felt that the draft objectives aligned well with the priorities and issues that were identified and offered suggestions to refine them, which were evaluated and integrated into the SCORP. Participants frequently discussed the action steps that would be used to achieve these objectives as well as the metrics that would be used to evaluate the effectiveness of these initiatives.

Making the SCORP a Useful Tool

As a final question in the discussions, participants were asked what would help make the SCORP a useful tool. Participants suggested that the SCORP should be accessible to the public and recreation stakeholders, rather than a document that is written solely to meet federal requirements. Additionally, participants suggested that the SCORP should be a robust planning tool rather than just a mechanism to receive federal funding. Those taking part in the conversation suggested that the report should provide clear action steps with well-defined metrics to help assess the effectiveness of achieving each of the objectives.

Participants also suggested that the SCORP should help

provide information regarding the economic significance of outdoor recreation to the local, regional, and statewide economy.



Appendix F. **Summary of Public Input on Draft SCORP**



Overview

In September 2017, Public Sector Consultants, in collaboration with the MDNR, completed a draft of the 2018–2022 SCORP. The plan’s goal is to help guide outdoor recreation investment and program decisions from the state and other public and private recreation stakeholders over the next five years. In developing the draft, the MDNR significantly increased the number of opportunities for engagement with the public and Michigan’s parks and outdoor recreation stakeholders from the 2012 SCORP. An initial online survey was sent to over 8,500 local government officials and two additional surveys were developed and sent to businesses and stakeholders via email. This year, 13 community conversations were held across the state, a significant increase from the five held in 2012. Throughout the processes, discussions were held with relevant state advisory groups (such as the Michigan State Parks Advisory Committee) who helped the MDNR develop, refine, and revise the overarching goal and seven objectives included in the SCORP. Based on the early input from stakeholders, the MDNR identified priority actions for achieving the SCORP’s objectives and goal.

Between August 31 and October 2, the draft SCORP was released for public comment. The MDNR issued a press release and several listservs were notified regarding the availability of the document. In addition, hosts of the community conversations were contacted to reach out to community conversation participants as well as to send the notice out to their organizations’ listservs. A copy of the draft SCORP was made available for public review and comment on the MDNR’s website, and it included a short survey to obtain feedback. The purpose of the public review was to garner stakeholder and public input about the draft SCORP document, including its:

- Effectiveness for guiding investments by the state and local, nonprofit, and private sector recreation

stakeholders for the development or improvement of recreation opportunities in Michigan

- Proposed objectives to address the goal of the SCORP
- Proposed actions for each objective to address the goal of the SCORP
- Ability to be measured by the MDNR over time

Respondents were able provide comments through an online form, via email, or first-class mail. Eighteen individuals participated in the online survey, and nineteen people provided feedback on the draft SCORP document directly to the MDNR via email or postal mail, for a total of 37 responses. The method for distribution of the draft SCORP was broader in 2017 than 2012, but had significantly fewer responses. This may be due to the increased outreach during the initial stages of the SCORP’s development, such as expansion of initial surveys, increasing the number of community conversations from five in 2012 to 13 in 2017, and the expansion of the advisory committee to include more external partners.

Comments ranged from general thoughts on the goals, objectives, or process, to very detailed suggestions for specific changes. The MDNR and its consulting team reviewed all the comments submitted and made changes to the SCORP document to reflect common themes, suggestions, and specific recommendations where applicable. Highlights of the public comments received are summarized below.

Highlights of Public Comments

All public responses were gathered and categorized for analysis. When appropriate and possible, comments were incorporated within the SCORP document. Eighteen individuals responded to the online survey, hence, percentages of agreement with the direct SCORP questions should be viewed with caution and cannot be extrapolated to the broader population. They merely represent the share

of online respondents who agree or disagree with various questions. Emailed comments did not specifically address the online survey questions, and so are not included in the number in agreement/disagreement; however, emailed and mailed responses are included in the summary text. Many of the email comments provided were in support of the current draft SCORP, suggested specific edits, or provided detailed critiques and recommended changes. The following is a summary of the public input received for the draft SCORP.

The draft SCORP, as written, will be an effective tool for guiding investments by the state and local, nonprofit, and private sector recreation providers in Michigan.

Twelve out of 17 online survey respondents agreed (the 18th did not respond). Those agreeing and disagreeing, as well as those responding with emailed comments, offered suggestions on how to improve the SCORP. Key suggestions related to this topic were that the objectives are too broad and sometimes conflicting. Some felt the goals and objectives were not aspirational enough, while others felt they were on target. Several felt that more concrete data is needed to measure progress, including the use of maps to show change. It was suggested that local communities/stakeholders may be able to provide some data in the absence of available state funding. Specific recreation activities, such as bird watching, nature study, and photography were noted to be overlooked in the report text and, as a result, have been incorporated in more locations. Comments also noted that the plan does not address the privatization of state parks, with several specifically mentioning strong displeasure with the Grand Prix on Belle Isle. In addition, respondents suggested that regional meetings need to be offered in more areas of the state and encompass more stakeholder groups.



The proposed objectives prioritized by the MDNR in the SCORP are the right ones.

Thirteen out of 18 online survey respondents agreed. However, several comments indicate that the objectives are too general and should be given a priority order, one suggestion was to provide a ranking system for the objectives for use in funding. This has been clarified in the introductory text: the objectives and action items are not in priority order. Funding criteria will vary based on the specific funds and/or grant source available. Additionally, respondents felt that progress made or setbacks experienced since the last plan are not clearly articulated. Specific benchmarks were noted in the SCORP whenever available and data collection is ongoing. Some respondents suggested that fossil fuel use should be decreased and more focus on nonmotorized activities should be encouraged, including creating quiet zones where motorized vehicles are not allowed, while others indicate the need for more ORV trails in certain areas of the state. Respondents wanted the health benefits of nonmotorized activities to be further promoted, and this is addressed within the SCORP. Some desire a better plan for promoting hunting and its cultural and economic benefits, while others want support for hunting to be decreased and focus instead placed on ecotourism and wildlife viewing. It was also noted that the plan does not mention severe weather shelters for park/trail users. Several parts of the state were noted as being neglected for improvements, including the Upper Peninsula, urban areas, and underserved communities.

The proposed actions for each objective adequately address the objectives and goal of the SCORP.

Thirteen out of 18 online survey respondents agreed. However, several respondents felt the action items did not promote enough action and/or were too broad in scope. One suggested placing more force behind the action items, such as changing the wording from things like “should” to

“require.” A few suggested limiting the number of action items. Some respondents felt that the action items passed the work onto other parties, and that some actions need to have the caveat that they will be done “only when we have the funds to do it.” Some also felt that action items contradicted each other. No changes were made to the number of action items or the introductory phrasing in order to maintain the board scope and allow for strategic opportunities that may only satisfy some of the objectives and/or action items. Respondents also suggested additional recreation activities to be included in the report. These have been added when possible.

Additional outcomes or measures should be used to evaluate the SCORP.

About half of the online respondents provided comments on additional outcomes and measures that could be incorporated by the MDNR and other recreation providers to evaluate SCORP progress over time. Respondents suggested that more specific measurements are needed to rate progress and hold the government accountable. Some specific recommendations related to increasing the number of deer of a certain age registered at MDNR check stations, or implementing an assessment tool/data collection to determine changes in outdoor recreation user obesity, fitness, and overall health to document improvement in health. Additionally, respondents want the progress to be reported annually. Some feel that too many measurement tools are identified and perhaps yearly feedback from stakeholders and the public may be a better way to measure progress. Specific recommendations included focusing on fixing/improving/maintaining existing infrastructure first, while others recommend expanding in underserved areas, such as near minority or urban areas. Respondents identified the need for more information on procedures to use during severe weather events, such as thunderstorms, lightning, hail, tornadoes, wildfires, etc. Additionally, respondents expressed

displeasure with the public/private partnership of the Grand Prix on Belle Isle.

Respondents were also given the opportunity to provide any additional input.

Several respondents were very pleased with the draft SCORP as written. Key suggestions for SCORP improvements include making sure that certain outdoor recreation activities are considered and promoted more within the SCORP, such as disc golf courses, equestrian trails, nonmotorized trails, mountain biking, road biking, cross-country skiing, color tours, hiking, and Great Lakes- and National Lakeshore-focused recreation. Some respondents noted that improving recreational access does not always involve development; residents want a diversity of outdoor recreation, including backcountry options. Respondents raised concerns regarding the amount and availability of campground space, including winter camping; lack of investments in sidewalks for walking; lack of dog-accessible beaches; maintaining hunting access on state lands; water safety issues, including providing adequate signage for boating rules; increasing parks in specific parts of the state; stewardship of land; and the increased use of trails by ORVs and logging trucks. Several respondents want to have the Grand Prix removed from Belle Isle, as it interferes with the “opportunity to commune with nature,” and they feel it should not be considered an outdoor recreation use and that it does not meet any SCORP objectives.

Some respondents addressed financial matters by recommending things such as adding user fees for access to state land for activities such as bird watching (and waiving the fees for low-income families), printing the fishing rules and regulations booklets every other year, offering two-year fishing licenses for a discounted rate, or charging higher taxes on water pumping for farmers and water-bottling companies. Again, the issue of “fix what we have first” was raised by some respondents.

One theme repeated by several respondents was the need to increase access to outdoor recreation for underserved communities. Wording within the survey summary sections was thought to downplay the disparities in satisfaction with outdoor recreation between demographic groups. These sections were modified to more explicitly state the differences in satisfaction and use, as well as to highlight Michigan’s recent demographic shifts more clearly.

Survey Respondent:

—
 “I believe if there were opportunities for urban populations to access a state-managed park closer to their communities (as opposed to somewhere hours away), you may see more engagement from urban-minority groups.”



**APPENDIX E-46 Saxon Falls and Superior Falls Recreation Inventory and Condition
Assessment Forms**

Recreation Observation Form

Date: 4/11/2021 Time: 1400

Superior Falls Hydroelectric Project P-2587

Survey Person: Mark Leitz

Note: Please list primary activity by placing a "P" in the box. Use and "S" for secondary activities.

Temperature: 42 Weather: Lt rain Wind Speed: <5

Recreation Site	Number of People	Recreation Activities												Notes	
		ATV/Snowmob	Shore Fishing	Boat Fishing	Swimming	Hiking/Walkin g/ Jogging	Bicycling	Picnicking	Bird Watching	Wildlife Viewing	Non-Powered Boating	Power Boating	Other (specify)		
Canoe Takeout															
Scenic Overlook															
North Country Trail	1														1 Site seeing
Tailwater Access	3		1												2 Site seeing

Additional Comments:

Recreation Observation Form

Date: 4/17/2021 Time: 900

Superior Falls Hydroelectric Project P-2587

Survey Person: Mark Leitz Note: Please list primary activity by placing a "P" in the box. Use and "S" for secondary activities.

Temperature: 40 Weather: Sunny Wind Speed: Calm

Recreation Site	Number of People	Recreation Activities												Notes	
		ATV/Snowmob	Shore Fishing	Boat Fishing	Swimming	Hiking/Walkin g/ Jogging	Bicycling	Picnicking	Bird Watching	Wildlife Viewing	Non-Powered Boating	Power Boating	Other (specify)		
Canoe Takeout															
Scenic Overlook	4													4	Site seeing
North Country Trail															
Tailwater Access	4		2											2	Site seeing

Additional Comments:

Recreation Observation Form

Date: 5/22/2021 Time: 1100

Saxon Falls Hydroelectric Project P-2610

Survey Person: Mark Leitz Note: Please list primary activity by placing a "P" in the box. Use and "S" for secondary activities.

Temperature: 68 Weather: Overcast Wind Speed: Calm

Recreation Site	Number of People	Recreation Activities											Notes			
		ATV/Snowmobile	Shore Fishing	Boat Fishing	Swimming	Hiking/Walking/ Jogging	Bicycling	Picnicking	Bird Watching	Wildlife Viewing	Non-Powered Boating	Power Boating		Other (specify)		
Boat Launch	4			4												
Scenic Overlook	2														2	Site seeing
Tailwater Access																

Additional Comments:

Recreation Observation Form

Date: 5/30/2021 Time: 1100

Superior Falls Hydroelectric Project P-2587

Survey Person: Mark Leitz Note: Please list primary activity by placing a "P" in the box. Use and "S" for secondary activities.

Temperature: 60 Weather: Overcast Wind Speed: Calm

Recreation Site	Number of People	Recreation Activities												Notes	
		ATV/Snowmob	Shore Fishing	Boat Fishing	Swimming	Hiking/Walkin g/ Jogging	Bicycling	Picnicking	Bird Watching	Wildlife Viewing	Non-Powered Boating	Power Boating	Other (specify)		
Canoe Takeout															
Scenic Overlook															
North Country Trail															
Tailwater Access	6		2											4	Site seeing

Additional Comments:

Recreation Observation Form

Date: 6/5/2021 Time: 1400

Saxon Falls Hydroelectric Project P-2610

Survey Person: Mark Leitz Note: Please list primary activity by placing a "P" in the box. Use and "S" for secondary activities.

Temperature: 87 Weather: Sunny Wind Speed: Calm

Recreation Site	Number of People	Recreation Activities											Notes		
		ATV/Snowmobile	Shore Fishing	Boat Fishing	Swimming	Hiking/Walking/ Jogging	Bicycling	Picnicking	Bird Watching	Wildlife Viewing	Non-Powered Boating	Power Boating		Other (specify)	
Boat Launch															
Scenic Overlook	4													4	Site seeing
Tailwater Access	2													2	Site seeing

Additional Comments:

Recreation Observation Form

Date: 6/15/2021 Time: 900

Superior Falls Hydroelectric Project P-2587

Survey Person: Mark Leitz Note: Please list primary activity by placing a "P" in the box. Use and "S" for secondary activities.

Temperature: 68 Weather: Cloudy Wind Speed: Calm

Recreation Site	Number of People	Recreation Activities												Notes	
		ATV/Snowmob	Shore Fishing	Boat Fishing	Swimming	Hiking/Walkin g/ Jogging	Bicycling	Picnicking	Bird Watching	Wildlife Viewing	Non-Powered Boating	Power Boating	Other (specify)		
Canoe Takeout															
Scenic Overlook															
North Country Trail															
Tailwater Access	2		2												

Additional Comments:

Recreation Observation Form

Date: 6/19/2021 Time: 1000

Saxon Falls Hydroelectric Project P-2610

Survey Person: Mark Leitz Note: Please list primary activity by placing a "P" in the box. Use and "S" for secondary activities.

Temperature: 62 Weather: Cloudy Wind Speed: Calm

Recreation Site	Number of People	Recreation Activities											Notes			
		ATV/Snowmobile	Shore Fishing	Boat Fishing	Swimming	Hiking/Walking/ Jogging	Bicycling	Picnicking	Bird Watching	Wildlife Viewing	Non-Powered Boating	Power Boating		Other (specify)		
Boat Launch	2			2												
Scenic Overlook	2														2	Site seeing
Tailwater Access																

Additional Comments:

Recreation Observation Form

Date: 7/17/2021 Time: 1530

Superior Falls Hydroelectric Project P-2587

Survey Person: Mark Leitz Note: Please list primary activity by placing a "P" in the box. Use and "S" for secondary activities.

Temperature: 82 Weather: Sunny Wind Speed: Calm

Recreation Site	Number of People	Recreation Activities												Notes	
		ATV/Snowmob	Shore Fishing	Boat Fishing	Swimming	Hiking/Walkin g/ Jogging	Bicycling	Picnicking	Bird Watching	Wildlife Viewing	Non-Powered Boating	Power Boating	Other (specify)		
Canoe Takeout															
Scenic Overlook	5														5 Site seeing
North Country Trail															
Tailwater Access	13		1												12 Site seeing

Additional Comments:

Recreation Observation Form

Date: 7/21/2021 Time: 900

Superior Falls Hydroelectric Project P-2587

Survey Person: Mark Leitz Note: Please list primary activity by placing a "P" in the box. Use and "S" for secondary activities.

Temperature: 65 Weather: Sunny Wind Speed: Calm

Recreation Site	Number of People	Recreation Activities											Notes	
		ATV/Snowmob	Shore Fishing	Boat Fishing	Swimming	Hiking/Walking / Jogging	Bicycling	Picnicking	Bird Watching	Wildlife Viewing	Non-Powered Boating	Power Boating		Other (specify)
Canoe Takeout														
Scenic Overlook	2													2 Site seeing
North Country Trail														
Tailwater Access	4		2											2 Site seeing

Additional Comments:

Recreation Observation Form

Date: 7/25/2021 Time: 830

Saxon Falls Hydroelectric Project P-2610

Survey Person: Mark Leitz Note: Please list primary activity by placing a "P" in the box. Use and "S" for secondary activities.

Temperature: 79 Weather: Mostly Sunny Wind Speed: Calm

Recreation Site	Number of People	Recreation Activities											Notes		
		ATV/Snowmobile	Shore Fishing	Boat Fishing	Swimming	Hiking/Walking/ Jogging	Bicycling	Picnicking	Bird Watching	Wildlife Viewing	Non-Powered Boating	Power Boating		Other (specify)	
Boat Launch	2													2	Site seeing
Scenic Overlook	2													2	Site seeing
Tailwater Access															

Additional Comments:

Recreation Observation Form

Date: 8/10/2021 Time: 800

Superior Falls Hydroelectric Project P-2587

Survey Person: Mark Leitz Note: Please list primary activity by placing a "P" in the box. Use and "S" for secondary activities.

Temperature: 70 Weather: Mostly sunny Wind Speed: Calm

Recreation Site	Number of People	Recreation Activities											Notes		
		ATV/Snowmob	Shore Fishing	Boat Fishing	Swimming	Hiking/Walking / Jogging	Bicycling	Picnicking	Bird Watching	Wildlife Viewing	Non-Powered Boating	Power Boating		Other (specify)	
Canoe Takeout															
Scenic Overlook															
North Country Trail															
Tailwater Access	5		1									2		2	Site seeing

Additional Comments:

Recreation Observation Form

Date: 8/15/2021 Time: 1300

Superior Falls Hydroelectric Project P-2587

Survey Person: Mark Leitz Note: Please list primary activity by placing a "P" in the box. Use and "S" for secondary activities.

Temperature: 82 Sunny Wind Speed: Mild

Recreation Site	Number of People	Recreation Activities											Notes	
		ATV/Snowmob	Shore Fishing	Boat Fishing	Swimming	Hiking/Walking / Jogging	Bicycling	Picnicking	Bird Watching	Wildlife Viewing	Non-Powered Boating	Power Boating		Other (specify)
Canoe Takeout														
Scenic Overlook	3													3 Site seeing
North Country Trail														
Tailwater Access	5		1									2		2 Site seeing

Additional Comments:

Recreation Observation Form

Date: 8/21/2021 Time: 1500

Superior Falls Hydroelectric Project P-2587

Survey Person: Mark Leitz Note: Please list primary activity by placing a "P" in the box. Use and "S" for secondary activities.

Temperature: 78 Cloudy Wind Speed: <5 mph

Recreation Site	Number of People	Recreation Activities											Notes		
		ATV/Snowmob	Shore Fishing	Boat Fishing	Swimming	Hiking/Walking / Jogging	Bicycling	Picnicking	Bird Watching	Wildlife Viewing	Non-Powered Boating	Power Boating		Other (specify)	
Canoe Takeout															
Scenic Overlook															
North Country Trail															
Tailwater Access	6													6	Site seeing

Additional Comments:

Recreation Observation Form

Date: 9/12/2021 Time: 900

Saxon Falls Hydroelectric Project P-2610

Survey Person: Mark Leitz Note: Please list primary activity by placing a "P" in the box. Use and "S" for secondary activities.

Temperature: 62 Weather: sunny Wind Speed: Calm

Recreation Site	Number of People	Recreation Activities											Notes		
		ATV/Snowmobile	Shore Fishing	Boat Fishing	Swimming	Hiking/Walking/ Jogging	Bicycling	Picnicking	Bird Watching	Wildlife Viewing	Non-Powered Boating	Power Boating		Other (specify)	
Boat Launch															
Scenic Overlook	2													2	Site seeing
Tailwater Access															

Additional Comments:

Recreation Inventory and Condition Assessment

Location: Saxon Falls Boat Launch Date: 10/21/2021

Saxon Falls Hydroelectric Project P-2610

Survey Person: Darrin Johnson

GPS Location: 46.53858 -90.373667

Amenity Photo Numbers: SXN_5

Shoreline Photo Numbers: SXN_5

Entryway Photo Number: SXN_1, SXN_2

Type of Amenity:	Quantity of Amenities:	Condition of Amenity:				Notes:	Barrier Free? (Y or N)
		-Not Usable (N)					
		-Needs Repair (R)					
		-Needs Maintenance (M)					
		-Good Working Condition (G)					
Boat Launch	Lanes: 1 Launches: 1	N	R	M	G	Gravel Launch	N
Scenic Overlook	NA	N	R	M	G		N
Tailwater Access	NA	N	R	M	G		N
Restroom	NA	N	R	M	G		N
Trash Receptacles	NA	N	R	M	G		NA
Other	Informational/ Directional/ Regulatory Signs	N	R	M	G	2 directional, 3 regulatory, 1 informational/ Part 8	

Parking	No. Spaces (each type):				Condition:	Notes:
	Standard:	Barrier-Free:	Trailer:	Other (specify):		
Boat Launch		0	9-10 total		N R M G	Gravel
Scenic Overlook/Tailrace					N R M G	Gravel

Signage:	Number:	Condition:	Comments: Provide Details on which signs need attention.
FERC Project Sign	1	N R M G	Combo interpretive and Part 8 Sign--Photo SXN_3
Regulations Signs	3	N R M G	Waterfall Ahead SXN_4, Regulatory Signs-Photos SXN_5 & 6
Directional	2	N R M G	Photos SXN_1 and SXN_2 -good condition
Interpretive	1	N R M G	Combo interpretive and Part 8 Sign--Photo SXN_3-good cond.

Additional Comments:
Describe any signs of overuse or anything observed that is not already documented above.

Slight erosion on upper end of gravel boat ramp, needs grading or addition of gravel. Room for 3 vehicles w/trailers to park at boat landing and room for an additional 6 vehicles w/trailers at the dam. No accessible facilities.

Recreation Inventory and Condition Assessment

Location: Saxon Falls Scenic Overlook and Tailwater Access Date: 10/21/2021

Saxon Falls Hydroelectric Project P-2610

Survey Person: Darrin Johnson

GPS Location: 46.535797 -90.380255

Amenity Photo Numbers: SXN_6 through SXN_14

Shoreline Photo Numbers: SXN_6

Entryway Photo Number: SXN_1 and SXN_10

Type of Amenity:	Quantity of Amenities:	Condition of Amenity:				Notes:	Barrier Free? (Y or N)
		-Not Usable (N)					
		-Needs Repair (R)					
		-Needs Maintenance (M)					
		-Good Working Condition (G)					
Boat Launch	Lanes: NA Launches: NA	N	R	M	G		N
Scenic Overlook	1	N	R	M	G		N
Tailwater Access	1	N	R	M	G		N
Restroom (overlook)	1	N	R	M	G	Portable	N
Trash Receptacles	0	N	R	M	G		NA
Other		N	R	M	G		

Parking	No. Spaces (each type):				Condition:	Notes:
	Standard:	Barrier-Free:	Trailer:	Other (specify):		
Boat Launch	0	0	0		N R M G	
Scenic Overlook/Tailrace	8 to 10	0	0		N R M G	Gravel

Signage:	Number:	Condition:	Comments: Provide Details on which signs need attention.
FERC Project Sign	1	N R M G	Need to update sign with Part 8 required items
Regulations Signs	3	N R M G	No trespassing signs on stairway and security fence
Directional	4	N R M G	Directional signs in good condition
Interpretive	0	N R M G	NA

Additional Comments:
Describe any signs of overuse or anything observed that is not already documented above.

Directional/Informational sign at crossroads above the Overlook. No Part 8 information included on any signs other than Project No. Gravel parking area suitable for 8-10 vehicles and is in good condition. Directional signs(4) are in good condition. No Trespassing signs on fence at top of stairs. Currently the only access down the stairs is provided when boaters coordinate with operators during periods of high flow to boat downstream. There is a well worn path around the fence where people are accessing the stairs. Pathway to overlook in good condition. Safety signage requesting recreationists to stay behind safety fencing at the overlook is recommended.

Recreation Inventory and Condition Assessment							
Location:	Superior Falls-North Country Trail-(Road Route)				Date:	10/21/2021	
Superior Falls Hydroelectric Project P-2587							
Survey Person:	Darrin Johnson						
GPS Location:	46.556958	-90414642					
Amenity Photo Numbers:	SPR_4						
Shoreline Photo Numbers:	NA						
Entryway Photo Number:	NA						
Type of Amenity:	Quantity of Amenities:	Condition of Amenity:				Notes:	Barrier Free? (Y or N)
		-Not Usable (N)					
		-Needs Repair (R)					
		-Needs Maintenance (M)					
		-Good Working Condition (G)					
Boat Launch	Lanes: NA Launches: NA	N	R	M	G		NA
Scenic Overlook	NA	N	R	M	G		NA
Tailwater Access	NA	N	R	M	G		NA
Restroom	NA	N	R	M	G		NA
Trash Receptacles	NA	N	R	M	G		NA
Other	North Country Trail- "Roadwalk"	N	R	M	G	Trail is entirely on State Hwy 122. No off road trail or signage is present.	NA
Parking	No. Spaces (each type):				Condition:	Notes:	
	Standard:	Barrier-Free:	Trailer:	Other (specify):			
North Country Trail	NA	NA	NA	NA	N R M G	No facilities	
					N R M G		
Signage:	Number:	Condition:			Comments: Provide Details on which signs need attention.		
FERC Project Sign	0	N	R	M	G	No Signage Present	
Regulations Signs	0	N	R	M	G		
Directional	0	N	R	M	G		
Interpretive	0	N	R	M	G		
Additional Comments:							
Describe any signs of overuse or anything observed that is not already documented above.							
<p>This section of North Country Trail is considered a "Roadwalk" since there is no off-road hiking path in this area. The route follows roads, specifically State Hwy 122 through the Project boundary. A review of the road route from the eastern Project boundary in Michigan along State Hwy 122 and County Highway B to Saxon Harbor was conducted. No signage identifying the North Country Trail was present anywhere along this route. Road is in good condition and provides a paved walking surface for hikers. The road shoulder is relatively narrow, but does provide an area for hikers to get off the traveled portion of the road when vehicles are encountered in all areas except the bridge crossing.</p>							

Recreation Inventory and Condition Assessment

Location: Superior Falls Scenic Overlook Date: 10/21/2021

Superior Falls Hydroelectric Project P-2587

Survey Person: Darrin Johnson

GPS Location: 46.564217 -90.415266

Amenity Photo Numbers: SPR_8, SPR_9, SPR_10

Shoreline Photo Numbers: SPR_7

Entryway Photo Number: SPR_5, SPR_6, SPR_11

Type of Amenity:	Quantity of Amenities	Condition of Amenity:				Notes:	Barrier Free? (Y or N)
		-Not Usable (N)	-Needs Repair (R)	-Needs Maintenance (M)	-Good Working Condition (G)		
Canoe Takeout	NA	N	R	M	G		NA
Scenic Overlook	1	N	R	M	G	Slight erosion at parking area	N
Tailwater Access	NA	N	R	M	G		N
Restroom (scenic overlook)	1	N	R	M	G	Portable	N
North Country Trail	NA	N	R	M	G		N
Trash Receptacles	NA	N	R	M	G		NA

Other: Informational Sign. N R M G. Informational sign weathered and needs replacement-Does not meet Part 8 req.

Parking	No. Spaces (each type):				Condition:	Notes:
	Standard:	Barrier-Free:	Trailer:	Other (specify):		
Canoe Takeout					N R M G	Roadside
Scenic Overlook/Tailwater	15	0	0	Joint parking for Overlook and Tailwater	N R M G	grading Gravel

Signage:	Number:	Condition:	Comments: Provide Details on which signs need attention.
FERC Project Sign	1	N R M G	FERC Project/informational sign weathered-does not meet Part 8 requirements-needs replacement
Regulations Signs	9	N R M G	1-Danger Do Not Cross Fence, 1-Caution (Stairs to PH), 2 No Trespassing (penstock-stairs to
Directional	3	N R M G	2 directional signs by road, directional sign at parking area
Interpretive	1	N R M G	FERC Project/informational sign at parking area weathered and needs replacement

Additional Comments:
Describe any signs of overuse or anything observed that is not already documented above.

Slight erosion at north end of parking area. Needs grading or added gravel. FERC Project/Informational Sign is weathered and does not contain all current Part 8 requirements. Needs replacement. Parking for approximately 15 vehicles at overlook. Additional overflow parking on adjacent Gogebic County parking area for 8-10 additional vehicles. Path to overlook and safety fence in good condition. Directional signs in good condition.

Recreation Inventory and Condition Assessment

Location: Superior Falls Canoe Take-out Date: 10/21/2021

Superior Falls Hydroelectric Project P-2587

Survey Person: Darrin Johnson

GPS Location: 46.556958 -90.414642

Amenity Photo Numbers: SPR_1, SPR_2, SPR_3

Shoreline Photo Numbers: SPR_1

Entryway Photo Number: SPR_3--parking on side of road

Type of Amenity:	Quantity of Amenities	Condition of Amenity:				Notes:	Barrier Free? (Y or N)
		-Not Usable (N)	-Needs Repair (R)	-Needs Maintenance (M)	-Good Working Condition (G)		
Canoe Takeout	1	N	R	M	G	Needs Maintenance	N
Scenic Overlook	NA	N	R	M	G		NA
Tailwater Access	NA	N	R	M	G		NA
Restroom (scenic overlook)	NA	N	R	M	G		NA
North Country Trail	NA	N	R	M	G		NA
Trash Receptacles	NA	N	R	M	G		NA
Other		N	R	M	G		

Parking	No. Spaces (each type):				Condition:	Notes:
	Standard:	Barrier-Free:	Trailer:	Other (specify):		
Canoe Takeout	3	0	0		N R M G	Roadside
Scenic Overlook/Tailwater	NA				N R M G	

Signage:	Number:	Condition:	Comments: Provide Details on which signs need attention.
FERC Project Sign	0	N R M G	
Regulations Signs	0	N R M G	
Directional	1	N R M G	Only 1 "Take out Here" sign facing the water, no other signage at site
Interpretive	0	N R M G	

Additional Comments:
Describe any signs of overuse or anything observed that is not already documented above.

Parking for 3 vehicles on side of road is in good condition. Path from takeout to parking area needs to be trimmed--currently has tall grass. There is only one Take Out Here sign facing the reservoir at the site. There are no signs identifying the site along the road.

Recreation Inventory and Condition Assessment

Location: Superior Falls Tailwater Fishing Area Date: 10/21/2021

Superior Falls Hydroelectric Project P-2587

Survey Person: Darrin Johnson

GPS Location: 46.56447 -90.416268

Amenity Photo Numbers: SPR_16, SPR_17

Shoreline Photo Numbers: SPR_16, SPR_17

Entryway Photo Number: SPR_5, SPR_6, SPR_11

Type of Amenity:	Quantity of Amenities	Condition of Amenity:				Notes:	Barrier Free? (Y or N)
		-Not Usable (N)					
		-Needs Repair (R)					
		-Needs Maintenance (M)					
		-Good Working Condition (G)					
Canoe Takeout	0	N	R	M	G		NA
Scenic Overlook	0	N	R	M	G		NA
Tailwater Access	1	N	R	M	G		NA
Restroom (scenic overlook)	1	N	R	M	G	Portable-joint with overlook	N
North Country Trail	0	N	R	M	G		NA
Trash Receptacles	0	N	R	M	G		NA
Other		N	R	M	G		

Parking	No. Spaces (each type):				Condition:	Notes:
	Standard:	Barrier-Free:	Trailer:	Other (specify):		
Canoe Takeout	0	0	0		N R M G	
Scenic Overlook/Tailwater	15	0	0		N R M G	Gravel

Signage:	Number:	Condition:	Comments: Provide Details on which signs need attention.
FERC Project Sign	1	N R M G	At Overlook Parking-weathered and does not meet Part 8 regulations
Regulations Signs	7	N R M G	warning signs(2) on north side of powerhouse faded and hard to read. No Trespassing sign at stairs damaged and faded. Recommend replacement.
Directional	3	N R M G	Good condition
Interpretive	1	N R M G	At Overlook Parking-weathered and does not meet Part 8 regulations

Additional Comments:
Describe any signs of overuse or anything observed that is not already documented above.

Sign at joint overlook/tailwater parking area weathered and does not meet Part 8 Regs. Recommend replacement. Slight erosion on north end of joint overlook/tailwater parking. Recommend grading or added gravel. One visual warning sign and one caution sign on north side of powerhouse sunbleached and hard to read-recommend replacement. No trespassing sign on stairs adjacent to penstock damaged and faded-recommend replacement. Tailwater fishing area in good condition, remaining warning signs in tailwater fishing area in good condition.

Saxon Falls and Superior Falls Recreation Use Inventory

Saxon Falls Project

Recreation Site	ATV Snowmobile	Shore Fishing	Boat Fishing	Swimming	Hiking/Walking	Biking	Picnicking	Birdwatching	Wildlife Viewing	Non -powered Boating	Power Boating	Other*	Totals
SXN Boat Launch	0	0	12	0	0	0	0	0	0	0	0	2	14
SXN Scenic Overlook	0	0	0	2	1	0	0	0	0	0	0	24	27
SXN Tailwater Access	0	0	0	0	0	0	0	0	0	4	0	2	6
Totals	0	0	12	2	1	0	0	0	0	4	0	28	47

*Other use noted was site-seeing

Superior Falls Project

Recreation Site	ATV Snowmobile	Shore Fishing	Boat Fishing	Swimming	Hiking/Walking	Biking	Picnicking	Birdwatching	Wildlife Viewing	Non -powered Boating	Power Boating	Other	Totals
SPR North Country Trail	0	0	0	0	0	0	0	0	0	0	0	1	1
SPR Canoe Portage Take-out	0	0	0	0	0	0	0	0	0	0	0	0	0
SPR Scenic Overlook	0	0	0	0	0	0	0	0	0	0	0	25	25
SPR Tailwater Access	0	18	0	0	0	0	0	0	0	4	0	54	76
Totals	0	18	0	0	0	0	0	0	0	4	0	80	102

*Other use noted was site-seeing

APPENDIX E-47 Saxon Falls and Superior Falls Recreation Study Photos

SXN_1 Directional Sign on Crossroads for Boat Landing/Dam/Overlook



SXN_2 Boat Landing Directional Sign (Dam/Boat Landing Intersection)



SXN_3-Informational Sign at Dam



SXN_4-Safety Signage-“Danger Waterfall Ahead”



SXN_5 Saxon Falls Boat Launch and Canoe Portage Take Out



SXN_6 Saxon Overlook-View of Falls



SXN_7 Saxon Overlook Safety Fencing



SXN_9 Overlook/Tailwater Access Portable Toilet & Stairway to Tailwater



SXN_10 Overlook Directional Sign on Road



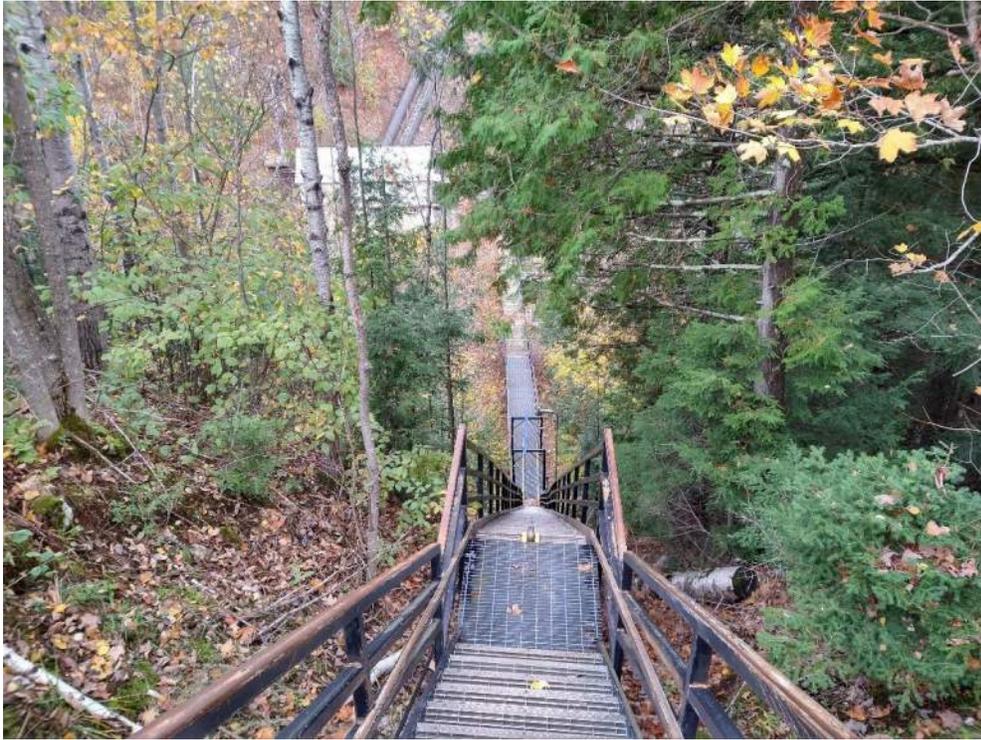
SXN_11 _Overlook Directional Sign 2 at Overlook/Tailwater Access Parking Area



SXN_12 Overlook Directional Sign 3 and hiking path to Overlook



Sxn_13 Stairs to Tailwater Access



SXN_14 -Do Not Enter Sign on Tailwater Stairway Gate



SXN_16 Tailwater Access-Canoe Portage Put-in



SPR_1 Superior Falls Takeout



SPR_2 -Superior Falls Canoe Portage Takeout Signage



SPR_3 Superior Falls Takeout Parking-Along Roadside



SPR_4 North Country Trail-Road Route Over Highway 122 bridge



SPR_5-Superior Falls Overlook/ Tailwater Access Directional Sign 1



SPR_6 Superior Falls Overlook/Tailwater Access Directional Sign 2



SPR_7-Superior Falls Overlook-View of Falls



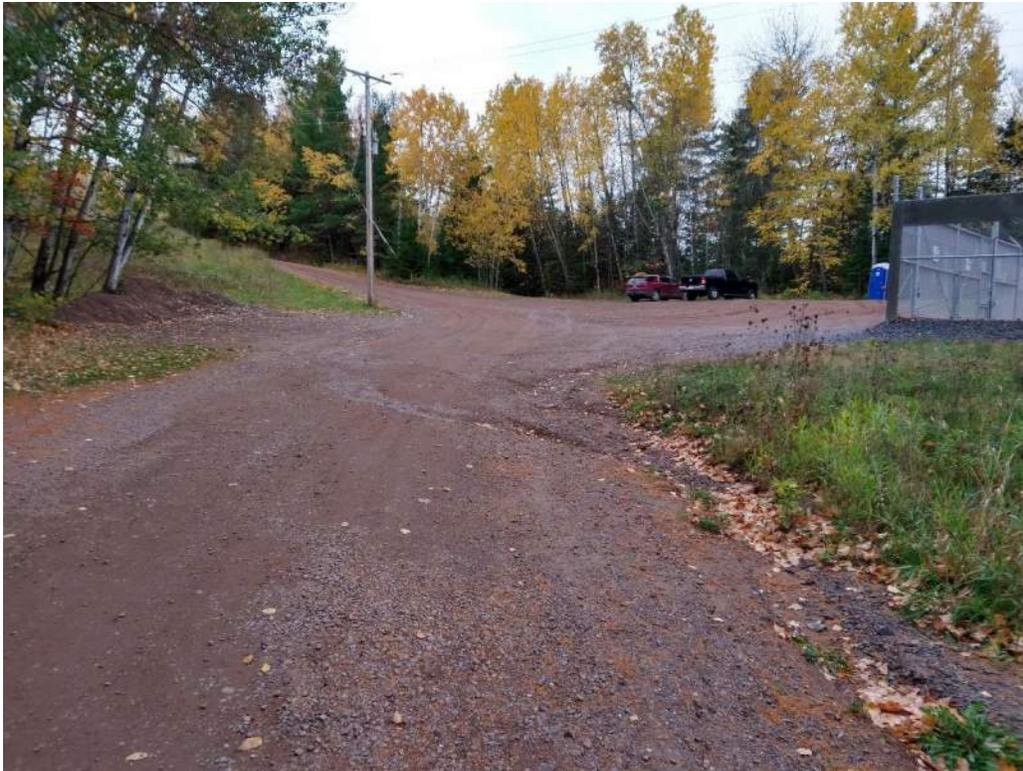
SPR_8 Superior Falls path to overlook and safety fencing



SXN_9 Overlook/Tailwater Access Portable Toilet



SPR_10 Superior Falls Overlook/Tailwater Access Parking



SPR_11 _Superior Falls Overlook/Tailwater Access Parking Area Signage



SPR_12 Superior Falls Tailwater Safety Signage



SPR_13 Penstock Stairway (Non-public)



SXN_ 14 -Tailwater Fishing Area-Safety Signage SW Side of Powerhouse



SPR_15 Superior Falls Tailwater Area Signage-Upstream of Powerhouse



SPR_16 Superior Falls Tailwater area Downstream of Powerhouse



SPR_17 Superior Falls Tailwater Area-Path Leading Upstream of Powerhouse



APPENDIX E-48 Saxon Falls and Superior Falls Recreation Questionnaires

Xcel Energy is in the process of relicensing the Saxon Falls and Superior Falls Hydroelectric Projects (Project or Projects) located on the Montreal River in Wisconsin and Michigan. Xcel Energy is gathering information about potential recreation needs in the vicinity of the Saxon Falls and Superior Falls Hydroelectric Projects.

The Project vicinity is defined as the area upstream and downstream of the Saxon Falls Dam and Powerhouse and Superior Falls Dam and Powerhouse within ¼ mile of the shoreline, extending two miles upstream of the Saxon Falls Dam and downstream to Lake Superior.

If you have any questions, please contact Matthew Miller at matthew.j.miller@xcelenergy.com or 715-737-1353.

1. Information about person completing the questionnaire:

Name & Title: Gray Ryskey Director
Organization: Geogebic County Forestry & Parks Commission
Address: 500 North Main Street
Bessemer, MI 49911
Phone: 906-663-4687
Email Address: gryskey@geogebiccountymi.gov

2. Is your organization responsible for recreation sites, amenities, formal access sites, or planning for recreation sites within the Project vicinity as defined above?

- Yes (Please proceed to 2a below) No (No additional information is needed and thank you for your input)

a. Please describe your primary function pertaining to recreation and list any recreation sites or access sites (formal or informal) in the Project vicinity you are responsible for in the space provided below: (Additional information may be provided on the final sheet of this questionnaire.)

Maintenance & access to the Montreal River gorge
overlook & the Lake Superior Overlook. Multi-use
trail 160 along the Montreal River

Please proceed to question 2b on the next page.

b. Please list any recreation amenities available at each recreation site or access site you manage (e.g. docks, restrooms, parking areas, interpretive signage, picnic tables, trails, etc.) below: (Additional information may be provided on the final sheet of this questionnaire.)

Picnic Table
 Parking Areas
 Signage
 Trails

c. Please provide the location of each site listed above using a map, street address, or GPS location: (Additional information may be provided on the final sheet of this questionnaire.)

Montreal River Gorge 46.536876°N 90.391869°W
 Lake Superior Overlook 46.566360°N 90.415232°W

d. Do any of your sites or amenities listed in 2a and 2b ever exceed capacity or not have enough parking capacity? (Additional information may be provided on the final sheet of this questionnaire.)

Yes (Please list location, amenity and when capacity is exceeded.) No

Recreation Site/Amenity	Event(s) Exceeding Capacity
Lake Superior Overlook / Parking	Seasonal Summer

Please proceed to question 2e on the next page.

e. Based on the specific recreation sites listed in 2a and amenities listed in 2b, do you have any planned improvements of existing recreation sites or any plans for development of new recreation sites? *(Additional information may be provided on the final sheet of this questionnaire.)*

- Yes *(Please list location, planned improvement, and anticipated opening date below.)* No

Planned Improvements/Locations

Anticipated Opening Date

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

f. Do you believe additional recreation sites/amenities are needed within the Project vicinity? *(Additional information may be provided on the final sheet of this questionnaire.)*

- Yes *(Please list reasoning below.)* No

Additional Recreation Sites/Amenities Reasoning

Improved Walking & Multi-use Trails

g. Please indicate if there is a specific representative you wish to designate for potential follow-up contact by Xcel Energy or Xcel Energy's representative for any recreation site listed above: *(Additional information may be provided on the final sheet of this questionnaire.)*

Representative Contact Information

Name: _____

Address: _____

Phone: _____

Email: _____

Xcel Energy is in the process of relicensing the Saxon Falls and Superior Falls Hydroelectric Projects (Project or Projects) located on the Montreal River in Wisconsin and Michigan. Xcel Energy is gathering information about potential recreation needs in the vicinity of the Saxon Falls and Superior Falls Hydroelectric Projects.

The Project vicinity is defined as the area upstream and downstream of the Saxon Falls Dam and Powerhouse and Superior Falls Dam and Powerhouse within ¼ mile of the shoreline, extending two miles upstream of the Saxon Falls Dam and downstream to Lake Superior.

If you have any questions, please contact Matthew Miller at matthew.j.miller@xcelenergy.com or 715-737-1353.

1. Information about person completing the questionnaire:

Name & Title: ERIC PETERSON, FOREST ADMINISTRATOR
Organization: IRON CO FORESTRY
Address: 607 3RD AVE N, Suite 2
HURLEY, WI 54834
Phone: (715) 561-2697 Ext 1
Email Address: icfadmin@ironcountyforest.org

2. Is your organization responsible for recreation sites, amenities, formal access sites, or planning for recreation sites within the Project vicinity as defined above?

Yes (Please proceed to 2a below) No (No additional information is needed and thank you for your input)

a. Please describe your primary function pertaining to recreation and list any recreation sites or access sites (formal or informal) in the Project vicinity you are responsible for in the space provided below: (Additional information may be provided on the final sheet of this questionnaire.)

IRON CO Forestry oversees all motorized recreational trails in the county. There is a state-funded snowmobile trail within the downstream project area.

Please proceed to question 2b on the next page.

b. Please list any recreation amenities available at each recreation site or access site you manage (e.g. docks, restrooms, parking areas, interpretive signage, picnic tables, trails, etc.) below:
(Additional information may be provided on the final sheet of this questionnaire.)

Trail Signage - Stop, Stop Ahead, Chevrons, others.

c. Please provide the location of each site listed above using a map, street address, or GPS location:
(Additional information may be provided on the final sheet of this questionnaire.)

See map.

d. Do any of your sites or amenities listed in 2a and 2b ever exceed capacity or not have enough parking capacity? *(Additional information may be provided on the final sheet of this questionnaire.)*

Yes *(Please list location, amenity and when capacity is exceeded.)* No

Recreation Site/Amenity	Event(s) Exceeding Capacity
<hr/>	<hr/>

Please proceed to question 2e on the next page.



e. Based on the specific recreation sites listed in 2a and amenities listed in 2b, do you have any planned improvements of existing recreation sites or any plans for development of new recreation sites? *(Additional information may be provided on the final sheet of this questionnaire.)*

Yes *(Please list location, planned improvement, and anticipated opening date below.)*

No

Planned Improvements/Locations

Anticipated Opening Date

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

f. Do you believe additional recreation sites/amenities are needed within the Project vicinity? *(Additional information may be provided on the final sheet of this questionnaire.)*

Yes *(Please list reasoning below.)*

No

Additional Recreation Sites/Amenities Reasoning

g. Please indicate if there is a specific representative you wish to designate for potential follow-up contact by Xcel Energy or Xcel Energy's representative for any recreation site listed above: *(Additional information may be provided on the final sheet of this questionnaire.)*

Representative Contact Information

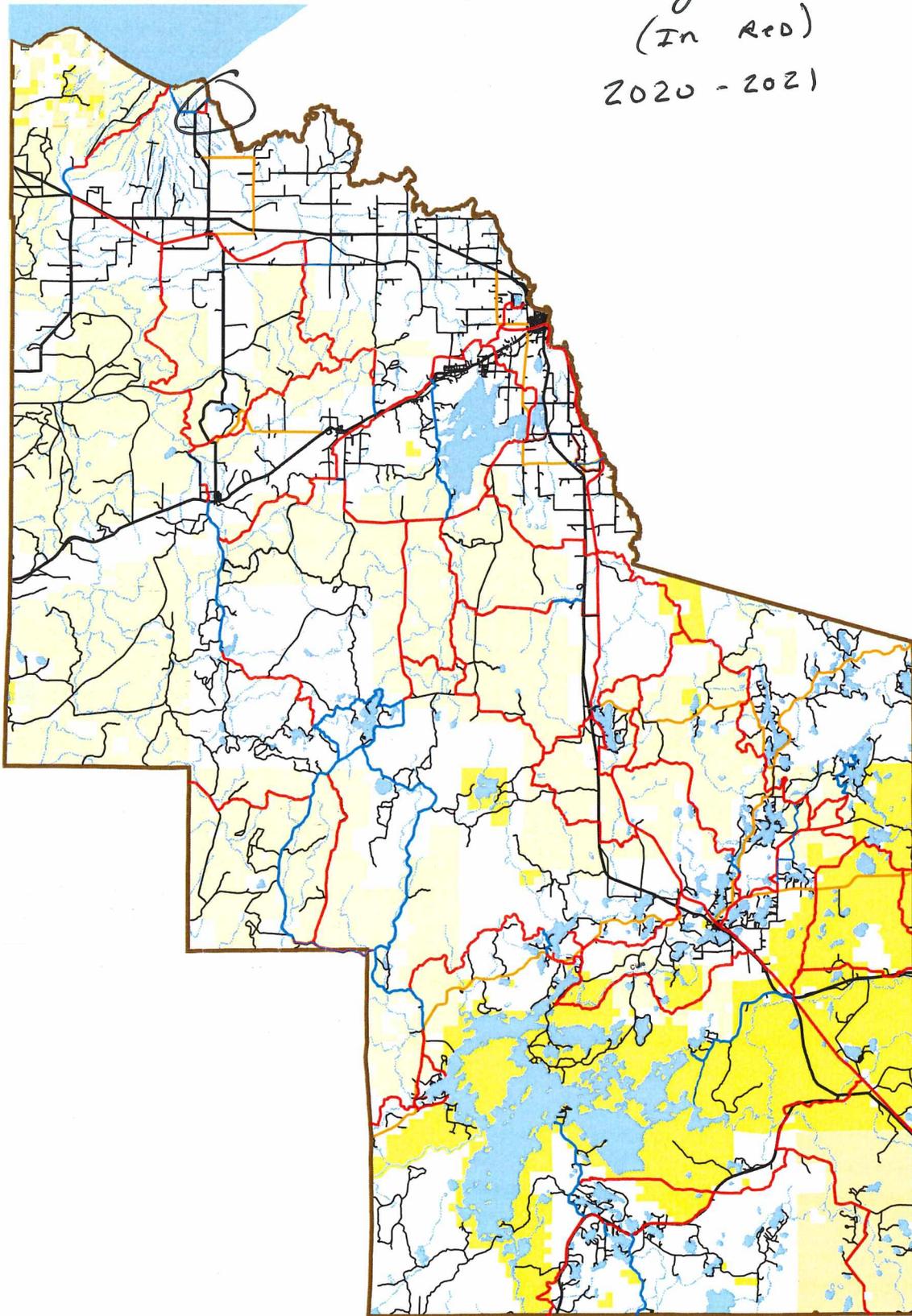
Name: _____

Address: _____

Phone: _____

Email: _____

*Iron County Snowmobile Trails
(In Red)
2020 - 2021*



APPENDIX E-49 Whitewater Study Protocol

**Saxon Falls
Hydroelectric Project
FERC Nos. 2610**

Study Plan

Whitewater Recreation Flow Study

Prepared for



Prepared by



meadhunt.com

May 2021

1. Introduction

Northern States Power Company – Wisconsin (NSPW, Licensee), d/b/a Xcel Energy, currently holds licenses issued by the Federal Energy Regulatory Commission (FERC or Commission) to operate and maintain the Saxon Falls and Superior Falls Hydroelectric Projects (Project or Projects). The Projects are owned, operated, and maintained by the Licensee. The current licenses, which designate the Projects as FERC Nos. 2610 and 2587 respectively, expire on December 31, 2024. To obtain a new license, the Licensee must submit a Final License Application (FLA) to FERC no later than December 31, 2022. The FLA, in part, should include an evaluation of the existing recreation, including whitewater recreation, associated with the Project.

On April 9, 2020, the Licensee held a Joint Agency Meeting to present information about the Project. At the meeting, and during the 60-day comment period immediately following, the Licensee received comments and study requests from several entities. American Whitewater (AW), Friends of the Gile Flowage (FOG), National Park Service (NPS), and several recreational boaters requested that study to determine inflow needs for whitewater recreation be conducted.

The AW requested that a controlled flow study be conducted by evaluating at least three different flows based on information from guidebooks and boaters that have used the reach to determine which flows to evaluate.

The FOG indicated that they agreed with stakeholders representing whitewater kayaking interests that a recreation use study is needed.

The NPS requested that a recreation flow study be conducted below Saxon Falls to Hwy 122, known to whitewater boaters as “Montreal River Canyon” be conducted to determine which flows are preferred by boaters passing through the river as well as which flows are acceptable and unacceptable.

Several recreational boaters requested that a study of instream flow needs for whitewater recreation and an evaluation of public access needs be conducted. They were also interested in improving access to real-time flow information.

The Licensee is proposing to conduct a Whitewater Recreation Flow Study to evaluate optimal flows for whitewater recreation downstream of the Saxon Falls Project within the Montreal River Canyon.

2. Study Plan Elements

2.1 Study Goals and Objectives

The objective of this Whitewater Flow study is to evaluate the effects of incremental flow releases from the Saxon Falls Project on the availability of whitewater boating opportunities in the Montreal River Canyon, beginning downstream of the Saxon Falls powerhouse extending downstream for approximately 2.1 miles to the upper extent of the existing Superior Falls Project boundary. The 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 that the river flows are available when the optimal whitewater flows occur and assess the feasibility of potential recreational flow releases.
- Quantify the effect on generation and the upstream Gile Flowage Project of any period of planned flow releases adjusted for the month in which it could occur.
- Develop an estimate of potential whitewater boating use if scheduled releases are supplied.
- Identify any competing recreational or environmental uses associated with scheduled releases.
- Verify the difficulty rating for each reach at varying flows as listed on the American Whitewater website.
- Evaluate existing and any other potential enhancements needed for paddling the bypass reach (Xcel Energy is already aware of the need for access at the beginning of the run and improvements to parking for the take out area).

2.2 Background and Existing Information

American Whitewater (AWW) provided information on recommended flow ranges for the Montreal River Canyon in their study request. They reviewed information from several whitewater sources. Whitewater Quietwater recommended a range of 250 cfs to 5,000 cfs. The Paddling Northern Wisconsin guidebook recommends a minimum flow of 250 to 300 cfs. The Northwoods Whitewater guidebook lists 400 cfs as the minimum flow, 1,000 cfs as ok, and 5,000 cfs as awesome. Comments in the AW webpage indicate that 200 cfs is too low and 720 cfs provided an awesome run¹.

A recreational boater providing comments on the PAD indicated that the reach provides quality whitewater rapids and has paddled the reach at flows between 720 cfs and 1,200 cfs.

The Saxon Falls Project is a run-of-river project where all inflows to the project are released downstream of the powerhouse. There is no storage capacity in the Project reservoir. Any planned recreational releases will likely require coordination with the upstream Licensee-owned Gile Flowage Storage Reservoir Project. The releases from the Gile Flowage Storage Reservoir Project require approximately 10 hours to reach the boating reach.

2.3 Nexus between project operations and effects on resources

Analysis of several flow levels downstream of Saxon Powerhouse relative to whitewater boating opportunities will provide baseline information to make decisions on how to balance several uses of the river by members of the public.

2.4 Study Area

The study will be the section of Montreal River known as the Montreal River Canyon beginning at the Saxon Falls powerhouse and extending downstream approximately 2.1 miles to the upper extent of the existing Superior Falls Project boundary. After traveling through the Montreal River Canyon, an additional 1-mile paddle through the Superior Falls reservoir is required to reach the canoe portage take-out at Highway 122. Since it is not possible to exit the Montreal River Canyon in the middle of the run due to steep topography and lack of access, the entire section will be considered one reach for study purposes.

¹ It is difficult to verify the accuracy of the flows reported.

2.5 Methodology

2.5.1 Participants

For the purposes of the Whitewater Recreation Flow Study, NSPW will coordinate with Jake Ring, a local boating enthusiast who routinely boats the reach to find approximately 3-5 individuals to participate in a whitewater boating evaluation of three different flow releases. Due to the restricted access within the Montreal River Canyon, emphasis will be placed upon finding volunteers who have either boated this stretch before or are found to be experienced whitewater boaters or whitewater paddling instructors.

NSPW will provide pens, clipboards and the evaluation forms for each boater. It is assumed that access and parking associated with the put-in and take-out is adequate to accommodate the study participants.

The study will be conducted on May 15, 2021. The first run will begin at 10:00 a.m. and the second run is expected to begin at 2:00 p.m. The Licensee has notified NPS and AWW the event has been scheduled and invited them to observe the study.

Through consultation with Jake Ring, NSPW is proposing to test a flow of 700 cfs 1,200 cfs. After the first release, the succeeding flow release may be adjusted according to boaters' recommendations after evaluating the previous flow. A more detailed protocol is available in Appendix 1.

At the conclusion of the last run, flows will be reduced in the channel over a period of three hours.

2.5.2 Evaluations

After each run, boaters will be asked to fill out the Boater Evaluation Form attached in Appendix 2.

After all runs have been completed, boaters will be asked to fill out the Summary Boater Evaluation Form attached in Appendix 3. The answers on Summary Boater Evaluation Forms will be used to guide a 15-minute discussion with all boaters regarding the optimum range of flows, and highest safe flow for their craft.

By Friday, May 21, 2021, a follow-up email will be sent to the study participants thanking them for their participation in the study and requesting if they have any follow-up comments or any clarifications they would like to make, that have not been previously provided on the forms or during the 15-minute discussion at the end of all runs.

2.5.3 Reporting

The final information for the Whitewater Recreation Flow Study will, at a minimum, provide the following and be outlined for relicensing participants comment in the draft license application:

- Whitewater boating attributes of the range of flows examined. This will include a difficulty rating and length of trip.
- Preferred flow
- Maximum safe flow
- The frequency of the availability and expected timing of the identified flows under the current operating scenario.
- The feasibility and cost of providing scheduled releases by month up to four hours in length with an emphasis on weekends (during April to November period).
- An estimate based on the participant boaters' responses of the potential of whitewater boating opportunities at the optimal boatable stream flow available at scheduled times for up to four hours at a time.
- A discussion of the natural resource impacts associated with controlled releases, and options to minimize or avoid adverse impact to the aquatic community.
- Comments received from the boaters during the survey, on the survey forms, during the 15 minutes discussion, and the follow-up email.

2.6 Consistency with generally accepted scientific practice

The Whitewater Recreation Flow Study follows generally accepted scientific practice. Similar protocols have been used in other relicensing studies.

2.7 Project Schedule

The study will be completed in 2021.

3. Consultation

Consultation on the results of the study will be completed as part of the consultation on the DLA.

4. References

Northern States Power Company – Wisconsin, dba Xcel Energy. 2019. Pre-Application Document-Saxon Falls and Superior Falls Hydroelectric Projects. Prepared by Mead & Hunt, December 30, 2019.

Northern States Power Company – Wisconsin, d/b/a Xcel Energy. 2020. Relicensing Study Summary, Saxon Falls Hydroelectric Project (FERC Project No. 2610), Superior Falls hydroelectric Project (FERC Project No. 2587). September 1, 2020.

Wisconsin Public Service Corporation. 2013. Whitewater Recreation Flow Study-Grandfather Falls Hydroelectric Project (FERC Project No. 1966). July 9, 2013.

Appendix 1 – Detailed Flow Release Protocol

**Draft Protocol for Saxon Falls Whitewater Boating Study
(revised 4/26/21)**

Date/Time/Flow Releases

- Date: Saturday, May 15, 2021
- Time: First run at 10:00 am. Second run 2:00 pm. The second run can occur earlier if boaters are able as the 1200 cfs flow should be at Saxon Falls around 1:00pm.
- Flow releases: 700 cfs (first release) and 1200 cfs (second release)
- Estimate 2 kayakers and 3 rafters minimum per Jake Ring
- 2 hours per run is more than sufficient per Jake
- Boaters to evaluate each flow using evaluation form

Operations (all times are approximate and subject to change)

- 12:00 am – the operator will release 700 cfs from the Gile Dam on the morning of the study. **This assumes approximately 10 hours travel time for flows from Gile Dam to peak and stabilize at Saxon Falls Powerhouse (water should first reach Saxon Falls Powerhouse in 6-7 hours with another 3 hours to peak and stabilize).**
- 3:00 am – the operator will release 1,200 cfs from the Gile Dam
- 10:00 am – flow at Saxon Falls reaches approximately 700 cfs, whitewater boaters to begin first run
- 12:00 pm – first run completed, boaters to evaluate 700 cfs release
- 2:00 pm – whitewater boaters to begin second run at 1,200 cfs (this time may be earlier if boaters finish the first run early and have time to evaluate the 700 cfs release)
- 4:00 pm – second run completed, boaters to evaluate 1,200 cfs release
- Each flow will be released from Gile Dam a minimum of three hours to allow flows to stabilize downstream at Saxon Falls

Plant	Pond Acreage	Cubic Feet	Hours to change pond 0.10' with inflow of 600 cfs	Hours to change pond 0.10' with inflow of 1200 cfs	Hours to change pond 0.10' with inflow of 2200 cfs	Hours to change pond 0.01' with inflow of 600 cfs	Hours to change pond 0.01' with inflow of 1200 cfs	Hours to change pond 0.01' with inflow of 2200 cfs
Gile Flowage	3317	144,488,520 CF	6.69	3.34	1.82	0.67	0.33	0.18
Saxon Falls	69	3,005,640 CF	0.14	0.07	0.04	0.01	0.01	0.00
Superior Falls	17	740,520 CF	0.03	0.02	0.01	0.00	0.00	0.00

Appendix 2

Boater Evaluation Form

Boater Evaluation Form

Saxon Falls - Montreal River Canyon Reach

(To Be Completed After Each Run)

Boater Information: (boater information other than name only needs to be completed once)

Name:	Email Address:	Zip Code:
Skill Level (check one): <input type="checkbox"/> -Advanced <input type="checkbox"/> -Expert <input type="checkbox"/> -Elite		
How many years have you boated at your current skill level?		_____ years
In the past three years, how many days a month do you boat?		_____ days
How many times have you boated this run before today?		_____ times
If you boated this run before: What were the flows? _____ cfs		
What type of watercraft did you use? _____		
How far is this river stretch from you home?		_____ miles

Timing:

Date of the Run _____

What was the flow during the run? _____ cfs

Watercraft:

What type of watercraft did you use for this run? (check one)

-Hardshell kayak -Inflatable kayak -Canoe -Other

Locations and Times:

Put-in Location: Saxon Falls Time: _____

Take-out Location: Superior Falls Time: _____

Difficulty:

How would you rate the difficulty (Class I, Class II, etc.) of the reach?

(please see next page)

Enjoyment:

Are you likely to return for future boating if today's flow was to be provided?
(check one)

-Definitely No -Possibly -Probably -Definitely Yes

Relative to this specific flow release, would you prefer a flow that was higher, lower, or was this optimum? (check one)

-Much Lower -Lower -Higher -Much Higher -Optimum

Satisfaction:

Please respond to each of the following statements about the characteristics at this flow level (please circle one opinion)

Statement	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
Reach is boatable at this flow level.	1	2	3	4	5
Reach is safe at this flow level.	1	2	3	4	5
Overall, this is an aesthetically pleasing run.	1	2	3	4	5

Challenges:

Please identify particularly challenging rapids or section and rate their difficulty at this flow. Please use the International Whitewater Scale and also note if you portaged.

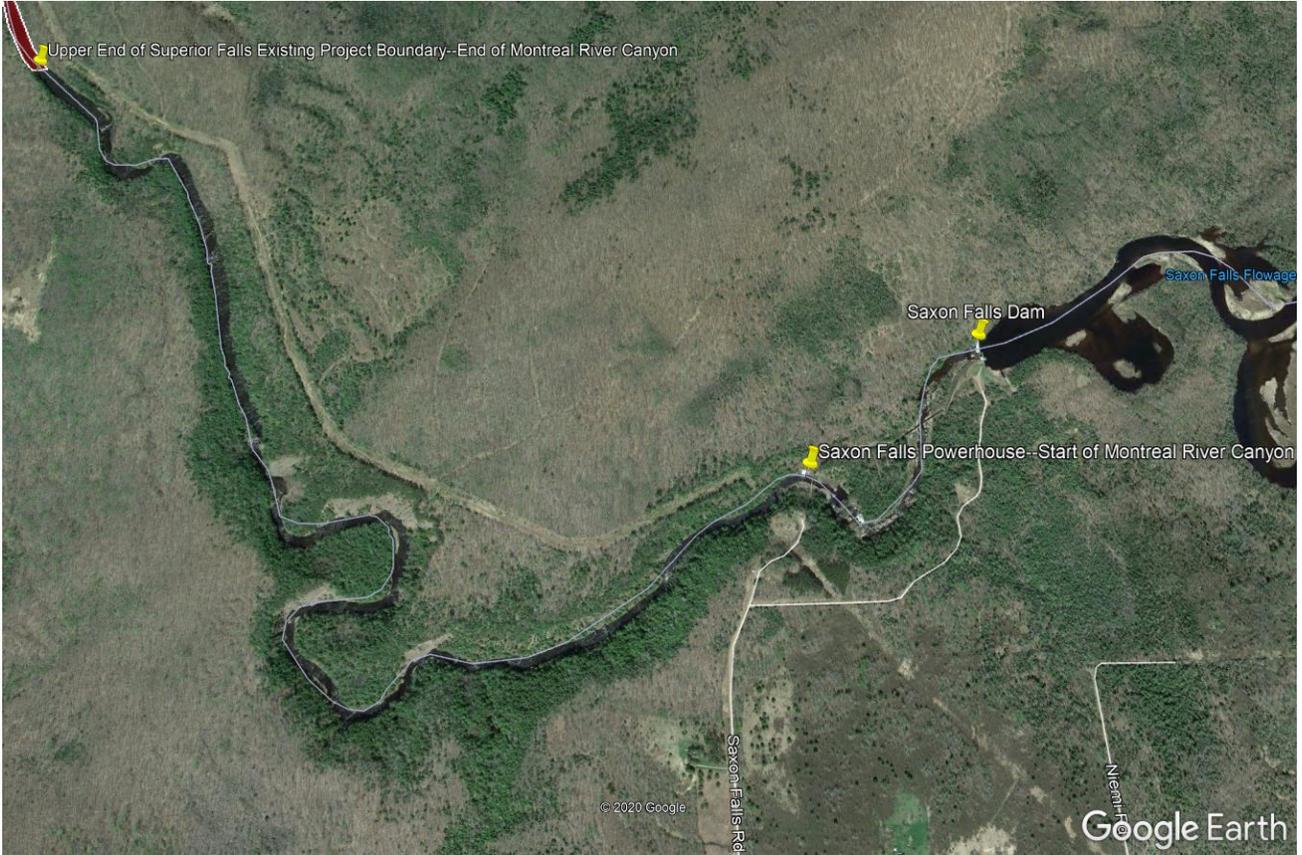
Rapid Location (name of Reach)	Whitewater Class	Portage? (yes or no)

Portages:

If you used a portage as indicated in the question above, please rate the difficulty at this flow level.

Portage Location (name of site)	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	1	2	3	4
	1	2	3	4

Thank You for your Time and Consideration



Appendix 3

Summary Boater Evaluation Form

Summary Boater Evaluation Form

Saxon Falls - Montreal River Canyon Reach

(To Be Completed After All Runs)

Boater Information:

Name:	Email Address:	Zip Code:
Skill Level (check one): <input type="checkbox"/> -Advanced <input type="checkbox"/> -Expert <input type="checkbox"/> -Elite		

Flow Levels:

Based upon all of your boating trips at various flow levels, please answer the following:

What is the optimal range that provides the best whitewater boating for this reach? _____cfs

What do you feel the highest safe flow is for your craft and skill level? ____ cfs

For you, what is the optimum flow for this run? _____cfs

What is the best or optimal flow for a "standard" trip? _____cfs

What is the best or optimal flow for a "high challenge" trip? _____cfs

If one flow for boating was released, what flow would you prefer? _____cfs

Run Specifics:

Please respond to each of the following statements about the characteristics at this flow level (please circle one opinion).

Statement	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
This run is a good length.	1	2	3	4	5
The portages (if any) on this run are not a problem.	1	2	3	4	5

Use of the Run:

Are you likely to return for future boating if the optimum flow would be provided? (check one)

-Definitely No -Possibly -Probably -Definitely Yes

What months would you return to boat? (check one)

-Apr -May -Jun -Jul -Aug -Sep -Oct -Nov

How would you like to receive flow information? (check one)

-Telephone Number with Recording -Website Information -Email Notification

Do you believe any of the flows provided today would be suitable for beginning boaters? (check one)

-Definitely No -Possibly -Probably -Definitely Yes

If so, Which flow Level(s)? _____

Do you believe any of the flows provided today would be suitable for play boating? (check one)

-Definitely No -Possibly -Probably -Definitely Yes

If so, Which flow Level(s)? _____

Is there another whitewater boating opportunity in the area that is preferable to the two test flows today? _____ (yes or no).

What is the name of the preferable whitewater boating opportunity? _____

What is the class of the preferable whitewater boating opportunity? _____

Is the preferable whitewater boating opportunity more challenging than the two test flows today? _____ (yes or no)

Does the preferable whitewater boating opportunity have more potential for boatability than the two test flows today? _____ (yes or no)

Hypothetical Flow Releases

For the following questions, please provide an overall evaluation for the range of water levels available on the river. In making your evaluations, consider all the flow dependent characteristics that contribute to a high quality trip (boatability, WW challenge, WW play, safety, aesthetics , and length of run). If you do not feel comfortable evaluating a flow you have not seen, leave that row blank.

Based on your preferences today, the following flow releases would create a desirable boating experience on this reach (check yes or no):

Flow Release (cfs)	Yes	No
600		
700		
800		
900		
1000		
1,100		
1,200		

Thank You for your Time and Consideration

APPENDIX E-50 Whitewater Study Survey Forms

Boater Evaluation Form

Saxon Falls - Montreal River Canyon Reach

(To Be Completed After Each Run)

Boater Information: (boater information other than name only needs to be completed once)

Name: <u>Jason Pientka</u>	Email Address: <u>RoofErJason@Live.Com</u>	Zip Code:
Skill Level (check one): <input type="checkbox"/> -Advanced <input checked="" type="checkbox"/> -Expert <input type="checkbox"/> -Elite		
How many years have you boated at your current skill level?		<u>5</u> years
In the past three years, how many days a month do you boat?		<u>15</u> days
How many times have you boated this run before today?		<u>8-10</u> times
If you boated this run before: What were the flows? <u>220/350 cfs / 650 / 750 / 1200 !sh</u>		
What type of watercraft did you use? <u>KAYAK</u>		
How far is this river stretch from you home? <u>2 3/4 hr</u> miles		

Timing:

Date of the Run 10 am
 What was the flow during the run? 700 cfs

Watercraft:

What type of watercraft did you use for this run? (check one)

- Hardshell kayak -Inflatable kayak -Canoe -Other

Locations and Times:

Put-in Location: Saxon Falls Time: 11:15
 Take-out Location: Superior Falls Time: 12:00

Difficulty:

How would you rate the difficulty (Class I, Class II, etc.) of the reach?

2+ to 3

Enjoyment:

Are you likely to return for future boating if today's flow was to be provided?
(check one)

-Definitely No -Possibly -Probably -Definitely Yes

Relative to this specific flow release, would you prefer a flow that was higher, lower, or was this optimum? (check one)

-Much Lower -Lower -Higher -Much Higher -Optimum

Satisfaction:

Please respond to each of the following statements about the characteristics at this flow level (please circle one opinion)

Statement	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
Reach is boatable at this flow level.	1	2	3	4	5
Reach is safe at this flow level.	1	2	3	4	5
Overall, this is an aesthetically pleasing run.	1	2	3	4	5

Challenges:

Please identify particularly challenging rapids or section and rate their difficulty at this flow. Please use the International Whitewater Scale and also note if you portaged.

Rapid Location (name of Reach)	Whitewater Class	Portage? (yes or no)
Ledges class 3	3	no
Bogie wate 2+	2+	no

Portages:

If you used a portage as indicated in the question above, please rate the difficulty at this flow level.

Portage Location (name of site)	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	1	2	3	4
	1	2	3	4

Thank You for your Time and Consideration

Boater Evaluation Form

Saxon Falls - Montreal River Canyon Reach

(To Be Completed After Each Run)

Boater Information: (boater information other than name only needs to be completed once)

Roofer Jason Elise.com

Name: <u>Jason Pientke</u>	Email Address:	Zip Code: <u>49802</u>
Skill Level (check one): <input type="checkbox"/> -Advanced <input checked="" type="checkbox"/> -Expert <input type="checkbox"/> -Elite		
How many years have you boated at your current skill level?		<u>5</u> years
In the past three years, how many days a month do you boat?		<u>15</u> days
How many times have you boated this run before today?		<u>8-10</u> times
If you boated this run before: What were the flows? <u>varies cfs 220 cfs - 1200 cfs</u>		
What type of watercraft did you use? <u>KAYAK</u>		
How far is this river stretch from you home? <u>2 1/2 hr</u> miles		

Timing:

Date of the Run 15 MAY
 What was the flow during the run? 2K cfs

Watercraft:

What type of watercraft did you use for this run? (check one)

- Hardshell kayak -Inflatable kayak -Canoe -Other

Locations and Times:

Put-in Location: Saxon Falls Time: 3:00
 Take-out Location: Superior Falls Time: 4:15

Difficulty:

How would you rate the difficulty (Class I, Class II, etc.) of the reach?

II + to III+

(please see next page)

Enjoyment:

Are you likely to return for future boating if today's flow was to be provided?
(check one)

-Definitely No -Possibly -Probably -Definitely Yes

Relative to this specific flow release, would you prefer a flow that was higher, lower, or was this optimum? (check one)

-Much Lower -Lower -Higher -Much Higher -Optimum

Satisfaction:

Please respond to each of the following statements about the characteristics at this flow level (please circle one opinion)

Statement	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
Reach is boatable at this flow level.	1	2	3	4	5
Reach is safe at this flow level.	1	2	3	4	5
Overall, this is an aesthetically pleasing run.	1	2	3	4	5

Challenges:

Please identify particularly challenging rapids or section and rate their difficulty at this flow. Please use the International Whitewater Scale and also note if you portaged.

Rapid Location (name of Reach)	Whitewater Class	Portage? (yes or no)
all ledges + Pitches	3 to 3+	yes

Portages:

If you used a portage as indicated in the question above, please rate the difficulty at this flow level.

Portage Location (name of site)	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	1	2	3	4
	1	2	3	4

Thank You for your Time and Consideration

Boater Evaluation Form

Saxon Falls - Montreal River Canyon Reach

(To Be Completed After Each Run)

Boater Information: (boater information other than name only needs to be completed once)

Name: <u>ANDY WIANUS</u>	Email Address: <u>Wiansaa@gmail.com</u>	Zip Code: <u>54703</u>
Skill Level (check one): <input type="checkbox"/> -Advanced <input type="checkbox"/> -Expert <input type="checkbox"/> -Elite <input checked="" type="checkbox"/> <u>Intermediate</u>		
How many years have you boated at your current skill level?		<u>4</u> years
In the past three years, how many days a month do you boat?		<u>5</u> days
How many times have you boated this run before today?		<u>0</u> times
If you boated this run before: What were the flows? _____ cfs		
What type of watercraft did you use? _____		
How far is this river stretch from you home? <u>150</u> miles		

Timing:

Date of the Run 5/15/21
 What was the flow during the run? 1000 cfs

Watercraft:

What type of watercraft did you use for this run? (check one)

- Hardshell kayak -Inflatable kayak -Canoe -Other 10ft Raft

Locations and Times:

Put-in Location: Saxon Falls Time: 3pm
 Take-out Location: Superior Falls Time: 4:20

Difficulty:

How would you rate the difficulty (Class I, Class II, etc.) of the reach?

II-III

(please see next page)

Enjoyment:

Are you likely to return for future boating if today's flow was to be provided?
(check one)

-Definitely No -Possibly -Probably -Definitely Yes

Relative to this specific flow release, would you prefer a flow that was higher, lower, or was this optimum? (check one)

-Much Lower -Lower -Higher -Much Higher -Optimum

Satisfaction:

Slightly higher

Please respond to each of the following statements about the characteristics at this flow level (please circle one opinion)

Statement	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
Reach is boatable at this flow level.	1	2	3	4	5
Reach is safe at this flow level.	1	2	3	4	5
Overall, this is an aesthetically pleasing run.	1	2	3	4	5

Challenges:

Please identify particularly challenging rapids or section and rate their difficulty at this flow. Please use the International Whitewater Scale and also note if you portaged.

Rapid Location (name of Reach)	Whitewater Class	Portage? (yes or no)

Portages:

If you used a portage as indicated in the question above, please rate the difficulty at this flow level.

Portage Location (name of site)	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
<i>Last turn before pond</i>	1	2	3	4
<i>Bridge is close in raft</i>	1	2	3	4

Thank You for your Time and Consideration

Boater Evaluation Form

Saxon Falls - Montreal River Canyon Reach (To Be Completed After Each Run)

Boater Information: (boater information other than name only needs to be completed once)

Name: <u>ANDY WIANAS</u>	Email Address: <u>wianasa@gmail.com</u>	Zip Code: <u>54703</u>
Skill Level (check one): <input type="checkbox"/> -Advanced <input type="checkbox"/> -Expert <input type="checkbox"/> -Elite <input checked="" type="checkbox"/> -Intermediate		
How many years have you boated at your current skill level?		<u>4</u> years
In the past three years, how many days a month do you boat?		<u>5</u> days
How many times have you boated this run before today?		<u>0</u> times
If you boated this run before: What were the flows? _____ cfs		
What type of watercraft did you use? _____		
How far is this river stretch from you home? <u>150</u> miles		

Timing:

Date of the Run 5/15/21

What was the flow during the run? 700 cfs

Watercraft:

What type of watercraft did you use for this run? (check one)

-Hardshell kayak
 -Inflatable kayak
 -Canoe
 -Other
10.5ft Raft

Locations and Times:

Put-in Location: Saxon Falls Time: 11am

Take-out Location: Superior Falls Time: 12pm

Difficulty:

How would you rate the difficulty (Class I, Class II, etc.) of the reach?

II - III

(please see next page)

Enjoyment:

Are you likely to return for future boating if today's flow was to be provided?
(check one)

-Definitely No -Possibly -Probably -Definitely Yes

Relative to this specific flow release, would you prefer a flow that was higher, lower, or was this optimum? (check one)

-Much Lower -Lower -Higher -Much Higher -Optimum

Satisfaction:

Please respond to each of the following statements about the characteristics at this flow level (please circle one opinion)

Statement	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
Reach is boatable at this flow level.	1	2	3	4	5
Reach is safe at this flow level.	1	2	3	4	5
Overall, this is an aesthetically pleasing run.	1	2	3	4	5

Challenges:

Please identify particularly challenging rapids or section and rate their difficulty at this flow. Please use the International Whitewater Scale and also note if you portaged.

Rapid Location (name of Reach)	Whitewater Class	Portage? (yes or no)
① Wide section still low water in raft	1-11	NO
② Strainer across river		NO - almost

Portages:

If you used a portage as indicated in the question above, please rate the difficulty at this flow level.

Portage Location (name of site)	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
② Strainer	1	2	3	4
	1	2	3	4

Thank You for your Time and Consideration

ON MAP



Boater Evaluation Form

Saxon Falls - Montreal River Canyon Reach (To Be Completed After Each Run)

Boater Information: (boater information other than name only needs to be completed once)

Name: <u>Megan Easterling</u>	Email Address: <u>megansuedrew@gmail.com</u>	Zip Code:
Skill Level (check one): <input type="checkbox"/> -Advanced <input type="checkbox"/> -Expert <input type="checkbox"/> -Elite		
How many years have you boated at your current skill level?		_____ years
In the past three years, how many days a month do you boat?		_____ days
How many times have you boated this run before today?		_____ times
If you boated this run before: What were the flows? _____ cfs		
What type of watercraft did you use? _____		
How far is this river stretch from you home?		_____ miles

Timing:

Date of the Run 5/15
 What was the flow during the run? 11 cfs

Watercraft:

What type of watercraft did you use for this run? (check one)

- Hardshell kayak -Inflatable kayak -Canoe -Other

Locations and Times:

Put-in Location: Saxon Falls Time: 3
 Take-out Location: Superior Falls Time: 4:15

Difficulty:

How would you rate the difficulty (Class I, Class II, etc.) of the reach?

Class II

(please see next page)

Enjoyment:

Are you likely to return for future boating if today's flow was to be provided?
(check one)

-Definitely No

-Possibly

-Probably

-Definitely Yes

Relative to this specific flow release, would you prefer a flow that was higher, lower, or was this optimum? (check one)

-Much Lower

-Lower

-Higher

-Much Higher

-Optimum

Satisfaction:

Please respond to each of the following statements about the characteristics at this flow level (please circle one opinion)

Statement	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
Reach is boatable at this flow level.	1	2	3	4	5
Reach is safe at this flow level.	1	2	3	4	5
Overall, this is an aesthetically pleasing run.	1	2	3	4	5

Challenges:

Please identify particularly challenging rapids or section and rate their difficult at this flow. Please use the International Whitewater Scale and also note if you portaged.

Rapid Location (name of Reach)	Whitewater Class	Portage? (yes or no)
S Curve	III	Yes
1st drop	III	No
Ledges	III	No

Portages:

If you used a portage as indicated in the question above, please rate the difficulty at this flow level.

Portage Location (name of site)	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
I "portaged" in the raft	1	2	3	4
	1	2	3	4

Thank You for your Time and Consideration

Boater Evaluation Form

Saxon Falls - Montreal River Canyon Reach

(To Be Completed After Each Run)

Boater Information: (boater information other than name only needs to be completed once)

Name: <u>Megan Easterling</u>	Email Address: <u>megan@wedrew@gmail.com</u>	Zip Code: <u>49802</u>
Skill Level (check one): <input type="checkbox"/> -Advanced <input type="checkbox"/> -Expert <input type="checkbox"/> -Elite <input checked="" type="checkbox"/> Intermediate		
How many years have you boated at your current skill level?		<u>2</u> years
In the past three years, how many days a month do you boat?		<u>4-8</u> days
How many times have you boated this run before today?		<u>1</u> times
If you boated this run before: What were the flows? <u>~ 1200 cfs</u>		
What type of watercraft did you use? <u>Kayak (Creekboat)</u>		
How far is this river stretch from you home? <u>140</u> miles		

Timing:

Date of the Run 5/15

What was the flow during the run? 700 cfs

Watercraft:

What type of watercraft did you use for this run? (check one)

-Hardshell kayak -Inflatable kayak -Canoe -Other

Locations and Times:

Put-in Location: Saxon Falls Time: 11:15

Take-out Location: Superior Falls Time: 12:00 noon

Difficulty:

How would you rate the difficulty (Class I, Class II, etc.) of the reach?

Class II - III

(please see next page)

Enjoyment:

Are you likely to return for future boating if today's flow was to be provided?
(check one)

-Definitely No -Possibly -Probably -Definitely Yes

Relative to this specific flow release, would you prefer a flow that was higher, lower, or was this optimum? (check one)

-Much Lower -Lower -Higher -Much Higher -Optimum

Satisfaction:

Please respond to each of the following statements about the characteristics at this flow level (please circle one opinion)

Statement	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
Reach is boatable at this flow level.	1	2	3	4	5
Reach is safe at this flow level.	1	2	3	4	5
Overall, this is an aesthetically pleasing run.	1	2	3	4	5

Challenges:

Please identify particularly challenging rapids or section and rate their difficult at this flow. Please use the International Whitewater Scale and also note if you portaged.

Rapid Location (name of Reach)	Whitewater Class	Portage? (yes or no)
S-Curve	III	No

Portages:

If you used a portage as indicated in the question above, please rate the difficulty at this flow level.

Portage Location (name of site)	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	1	2	3	4
	1	2	3	4

Thank You for your Time and Consideration

Boater Evaluation Form

Saxon Falls - Montreal River Canyon Reach

(To Be Completed After Each Run)

Boater Information: (boater information other than name only needs to be completed once)

Name: <u>Jon Wheeler</u>	Email Address: <u>son@bluewater-realty.com</u>	Zip Code: <u>54891</u>
Skill Level (check one): <input checked="" type="checkbox"/> -Advanced <input type="checkbox"/> -Expert <input type="checkbox"/> -Elite		
How many years have you boated at your current skill level?		<u>28</u> years
In the past three years, how many days a month do you boat?		<u>1</u> days
How many times have you boated this run before today?		<u>dozens</u> times
If you boated this run before: What were the flows? <u>4-500 cfs - this year</u>		
What type of watercraft did you use? <u>Kayak</u>		
How far is this river stretch from you home?		<u>35</u> miles

Timing:

Date of the Run May 15, 2021

What was the flow during the run? 700 cfs

Watercraft:

What type of watercraft did you use for this run? (check one)

- Hardshell kayak -Inflatable kayak -Canoe -Other

Locations and Times:

Put-in Location: Saxon Falls Time: 11:00

Take-out Location: Superior Falls Time: 12:20

Difficulty:

How would you rate the difficulty (Class I, Class II, etc.) of the reach?

II-III

(please see next page)

Enjoyment:

Are you likely to return for future boating if today's flow was to be provided?
(check one)

-Definitely No -Possibly -Probably -Definitely Yes

Relative to this specific flow release, would you prefer a flow that was higher, lower, or was this optimum? (check one)

-Much Lower -Lower -Higher -Much Higher -Optimum

Satisfaction:

Please respond to each of the following statements about the characteristics at this flow level (please circle one opinion)

Statement	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
Reach is boatable at this flow level.	1	2	3	4	5
Reach is safe at this flow level.	1	2	3	4	5
Overall, this is an aesthetically pleasing run.	1	2	3	4	5

Challenges:

Please identify particularly challenging rapids or section and rate their difficulty at this flow. Please use the International Whitewater Scale and also note if you portaged.

Rapid Location (name of Reach)	Whitewater Class	Portage? (yes or no)
<i>Numerous class 1 & 3 rapids - nothing particularly challenging</i>		

Portages:

If you used a portage as indicated in the question above, please rate the difficulty at this flow level.

Portage Location (name of site)	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	1	2	3	4
	1	2	3	4

* Takeout - The new proposed takeout was easy to use and safer than the typical takeout on the hwy by the bridge

Thank You for your Time and Consideration

Boater Evaluation Form

Saxon Falls - Montreal River Canyon Reach

(To Be Completed After Each Run)

Boater Information: (boater information other than name only needs to be completed once)

Name: <u>Son Wheeler</u>	Email Address: <u>son@bluewaterreality.org</u>	Zip Code: <u>54891</u>
Skill Level (check one): <input checked="" type="checkbox"/> -Advanced <input type="checkbox"/> -Expert <input type="checkbox"/> -Elite		
How many years have you boated at your current skill level?		<u>28</u> years
In the past three years, how many days a month do you boat?		<u>1</u> days
How many times have you boated this run before today?		<u>102</u> times
If you boated this run before: What were the flows? <u>500-700</u> cfs <u>4-5</u> year		
What type of watercraft did you use? <u>Kayak</u>		
How far is this river stretch from you home?		<u>35</u> miles

Timing:

Date of the Run 5-15
 What was the flow during the run? 1,000 cfs

Watercraft:

What type of watercraft did you use for this run? (check one)

-Hardshell kayak -Inflatable kayak -Canoe -Other

Locations and Times:

Put-in Location: Saxon Falls Time: 3⁰⁰
 Take-out Location: Superior Falls Time: 4¹⁵

Difficulty:

How would you rate the difficulty (Class I, Class II, etc.) of the reach?

Class III

(please see next page)

Enjoyment:

Are you likely to return for future boating if today's flow was to be provided?
(check one)

-Definitely No -Possibly -Probably -Definitely Yes

Relative to this specific flow release, would you prefer a flow that was higher, lower, or was this optimum? (check one)

-Much Lower -Lower -Higher -Much Higher -Optimum

Satisfaction:

Please respond to each of the following statements about the characteristics at this flow level (please circle one opinion)

Statement	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
Reach is boatable at this flow level.	1	2	3	4	5
Reach is safe at this flow level.	1	2	3	4	5
Overall, this is an aesthetically pleasing run.	1	2	3	4	5

Challenges:

Please identify particularly challenging rapids or section and rate their difficulty at this flow. Please use the International Whitewater Scale and also note if you portaged.

Rapid Location (name of Reach)	Whitewater Class	Portage? (yes or no)
Fairly continuous class III lots of fun waves and holes, very enjoyable		

Portages:

If you used a portage as indicated in the question above, please rate the difficulty at this flow level.

Portage Location (name of site)	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	1	2	3	4
	1	2	3	4

Thank You for your Time and Consideration

Boater Evaluation Form

Saxon Falls - Montreal River Canyon Reach

(To Be Completed After Each Run)

Boater Information: (boater information other than name only needs to be completed once)

Name: <u>Joe Christensen</u>	Email Address: <u>draappin13@gmail.com</u>	Zip Code: <u>49801</u>
Skill Level (check one): <input checked="" type="checkbox"/> -Advanced <input type="checkbox"/> -Expert <input type="checkbox"/> -Elite		
How many years have you boated at your current skill level?		<u>2</u> years
In the past three years, how many days a month do you boat?		<u>15-20</u> days
How many times have you boated this run before today?		<u>4</u> times
If you boated this run before: What were the flows? <u>1,000-2,000</u> cfs		
What type of watercraft did you use? <u>Kayak and raft</u>		
How far is this river stretch from you home? <u>140</u> miles		

Timing:

Date of the Run 5-15-21

What was the flow during the run? 700 cfs

Watercraft:

What type of watercraft did you use for this run? (check one)

-Hardshell kayak -Inflatable kayak -Canoe -Other

Locations and Times:

Put-in Location: Saxon Falls Time: 11:15

Take-out Location: Superior Falls Time: 12:00

Difficulty:

How would you rate the difficulty (Class I, Class II, etc.) of the reach?

Class II-III

(please see next page)

Enjoyment:

Are you likely to return for future boating if today's flow was to be provided?
(check one)

-Definitely No -Possibly -Probably -Definitely Yes

Relative to this specific flow release, would you prefer a flow that was higher, lower, or was this optimum? (check one)

-Much Lower -Lower -Higher -Much Higher -Optimum

Satisfaction:

Please respond to each of the following statements about the characteristics at this flow level (please circle one opinion)

Statement	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
Reach is boatable at this flow level.	1	2	3	4	5
Reach is safe at this flow level.	1	2	3	4	5
Overall, this is an aesthetically pleasing run.	1	2	3	4	5

Challenges:

Please identify particularly challenging rapids or section and rate their difficulty at this flow. Please use the International Whitewater Scale and also note if you portaged.

Rapid Location (name of Reach)	Whitewater Class	Portage? (yes or no)
1st ledge/hole	II-III	no
2nd ledge/hole	III	no
S-turn	II-III	no

Portages:

If you used a portage as indicated in the question above, please rate the difficulty at this flow level.

Portage Location (name of site)	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	1	2	3	4
	1	2	3	4

Thank You for your Time and Consideration

Boater Evaluation Form

Saxon Falls - Montreal River Canyon Reach

(To Be Completed After Each Run)

Boater Information: (boater information other than name only needs to be completed once)

Name: <u>Joe Christiansen</u>	Email Address:	Zip Code:
Skill Level (check one): <input checked="" type="checkbox"/> -Advanced <input type="checkbox"/> -Expert <input type="checkbox"/> -Elite		
How many years have you boated at your current skill level?		<u>3</u> years
In the past three years, how many days a month do you boat?		<u>15-20</u> days
How many times have you boated this run before today?		<u>4</u> times
If you boated this run before: What were the flows? <u>1,000-2,000</u> cfs		
What type of watercraft did you use? <u>Kayak</u>		
How far is this river stretch from you home?		<u>140</u> miles

Timing:

Date of the Run 5-15-21
 What was the flow during the run? 1,000 cfs

Watercraft:

What type of watercraft did you use for this run? (check one)

-Hardshell kayak -Inflatable kayak -Canoe -Other

Locations and Times:

Put-in Location: Saxon Falls Time: 3:00
 Take-out Location: Superior Falls Time: 4:15

Difficulty:

How would you rate the difficulty (Class I, Class II, etc.) of the reach?

class II+ - III+

(please see next page)



Enjoyment:

Are you likely to return for future boating if today's flow was to be provided?
(check one)

-Definitely No -Possibly -Probably -Definitely Yes

Relative to this specific flow release, would you prefer a flow that was higher, lower, or was this optimum? (check one)

-Much Lower -Lower -Higher -Much Higher -Optimum

Satisfaction:

Please respond to each of the following statements about the characteristics at this flow level (please circle one opinion)

Statement	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
Reach is boatable at this flow level.	1	2	3	4	5
Reach is safe at this flow level.	1	2	3	4	5
Overall, this is an aesthetically pleasing run.	1	2	3	4	5

Challenges:

Please identify particularly challenging rapids or section and rate their difficulty at this flow. Please use the International Whitewater Scale and also note if you portaged.

Rapid Location (name of Reach)	Whitewater Class	Portage? (yes or no)
Hole 2	class III	none
Hole 3	class III+	none
S-turn	class III	none

Portages:

If you used a portage as indicated in the question above, please rate the difficulty at this flow level.

Portage Location (name of site)	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	1	2	3	4
	1	2	3	4

Thank You for your Time and Consideration

Boater Evaluation Form

Saxon Falls - Montreal River Canyon Reach (To Be Completed After Each Run)

Boater Information: (boater information other than name only needs to be completed once)

Name: <u>RACHEL URBAN</u>	Email Address: <u>RACHELURBAN123@GMAIL.COM</u>	Zip Code: <u>54703</u>
Skill Level (check one): <input type="checkbox"/> -Advanced <input type="checkbox"/> -Expert <input type="checkbox"/> -Elite <input checked="" type="checkbox"/> <u>Intermediate</u>		
How many years have you boated at your current skill level?		<u>FOUR</u> years
In the past three years, how many days a month do you boat?		<u>2-3</u> days
How many times have you boated this run before today?		<u>0</u> times
If you boated this run before: What were the flows? _____ cfs		
What type of watercraft did you use? _____		
How far is this river stretch from you home? <u>150</u> miles		

Timing:

Date of the Run 05/15/2021
 What was the flow during the run? 700 cfs

Watercraft:

What type of watercraft did you use for this run? (check one)

- Hardshell kayak
 -Inflatable kayak
 -Canoe
 -Other
(O.S RAFT)

Locations and Times:

Put-in Location: Saxon Falls Time: 11:00am
 Take-out Location: Superior Falls Time: 12:00pm

Difficulty:

How would you rate the difficulty (Class I, Class II, etc.) of the reach?

CLASS I - II

Enjoyment:

Are you likely to return for future boating if today's flow was to be provided?
(check one)

-Definitely No -Possibly -Probably -Definitely Yes

Relative to this specific flow release, would you prefer a flow that was higher, lower, or was this optimum? (check one)

-Much Lower -Lower -Higher -Much Higher -Optimum

Satisfaction:

Please respond to each of the following statements about the characteristics at this flow level (please circle one opinion)

Statement	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
Reach is boatable at this flow level.	1	2	3	4	5
Reach is safe at this flow level.	1	2	3	4	5
Overall, this is an aesthetically pleasing run.	1	2	3	4	5

— wow

Challenges:

Please identify particularly challenging rapids or section and rate their difficulty at this flow. Please use the International Whitewater Scale and also note if you portaged.

Rapid Location (name of Reach)	Whitewater Class	Portage? (yes or no)
TOWARDS THE END OF RAPIDS	→ LOW WATER.	NO

Portages:

If you used a portage as indicated in the question above, please rate the difficulty at this flow level.

Portage Location (name of site)	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	1	2	3	4
	1	2	3	4

Thank You for your Time and Consideration

Boater Evaluation Form

Saxon Falls - Montreal River Canyon Reach

(To Be Completed After Each Run)

Boater Information: (boater information other than name only needs to be completed once)

Name: <u>RACHEL URBAN</u>	Email Address:	Zip Code: <u>54703</u>
Skill Level (check one): <input type="checkbox"/> -Advanced <input type="checkbox"/> -Expert <input type="checkbox"/> -Elite <input checked="" type="checkbox"/> <u>intermediate</u>		
How many years have you boated at your current skill level?		_____ years
In the past three years, how many days a month do you boat?		_____ days
How many times have you boated this run before today?		_____ times
If you boated this run before: What were the flows? _____ cfs		
What type of watercraft did you use? _____		
How far is this river stretch from you home?		_____ miles

Timing:

Date of the Run 05/15/2021

What was the flow during the run? 950cfs

Watercraft:

What type of watercraft did you use for this run? (check one)

- Hardshell kayak
 -Inflatable kayak
 -Canoe
 -Other
10.5 ft RAFT.

Locations and Times:

Put-in Location: Saxon Falls Time: 3:00pm

Take-out Location: Superior Falls Time: 4:20pm

Difficulty:

How would you rate the difficulty (Class I, Class II, etc.) of the reach?

Class I ~~II~~ ~~III~~

(please see next page)

Enjoyment:

Are you likely to return for future boating if today's flow was to be provided?
(check one)

-Definitely No -Possibly -Probably -Definitely Yes

Relative to this specific flow release, would you prefer a flow that was higher, lower, or was this optimum? (check one)

-Much Lower -Lower -Higher -Much Higher -Optimum

950 was bomb!

Satisfaction:

Please respond to each of the following statements about the characteristics at this flow level (please circle one opinion)

Statement	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
Reach is boatable at this flow level.	1	2	3	4	5
Reach is safe at this flow level.	1	2	3	4	5
Overall, this is an aesthetically pleasing run.	1	2	3	4	5

Challenges:

Please identify particularly challenging rapids or section and rate their difficult at this flow. Please use the International Whitewater Scale and also note if you portaged.

Rapid Location (name of Reach)	Whitewater Class	Portage? (yes or no)

Portages:

If you used a portage as indicated in the question above, please rate the difficulty at this flow level.

Portage Location (name of site)	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	1	2	3	4
	1	2	3	4

Thank You for your Time and Consideration

Boater Evaluation Form

Saxon Falls - Montreal River Canyon Reach

(To Be Completed After Each Run)

Boater Information: (boater information other than name only needs to be completed once)

Name: <u>SANDRA NEWBURY</u>	Email Address: <u>SANDRA RESHTIGOHAVEFUN@GMAIL.COM</u>	Zip Code: <u>53711</u>
Skill Level (check one): <input type="checkbox"/> -Advanced <input type="checkbox"/> -Expert <input type="checkbox"/> -Elite		
How many years have you boated at your current skill level?		<u>3</u> years
In the past three years, how many days a month do you boat?		<u>10+</u> days
How many times have you boated this run before today?		<u>0</u> times
If you boated this run before: What were the flows? _____ cfs		
What type of watercraft did you use? _____		
How far is this river stretch from you home? <u>250</u> miles		

Timing:

Date of the Run 5/15/21
 What was the flow during the run? 700 cfs

Watercraft:

What type of watercraft did you use for this run? (check one)

- Hardshell kayak -Inflatable kayak -Canoe -Other

Locations and Times:

Put-in Location: Saxon Falls Time: 11
 Take-out Location: Superior Falls Time: 11:45

Difficulty:

How would you rate the difficulty (Class I, Class II, etc.) of the reach?

CLASS II / III

(please see next page)

Enjoyment:

Are you likely to return for future boating if today's flow was to be provided?
(check one)

-Definitely No -Possibly -Probably -Definitely Yes

Relative to this specific flow release, would you prefer a flow that was higher, lower, or was this optimum? (check one)

-Much Lower -Lower -Higher -Much Higher -Optimum

Satisfaction:

Please respond to each of the following statements about the characteristics at this flow level (please circle one opinion)

Statement	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
Reach is boatable at this flow level.	1	2	3	4	5
Reach is safe at this flow level.	1	2	3	4	5
Overall, this is an aesthetically pleasing run.	1	2	3	4	5

Challenges:

Please identify particularly challenging rapids or section and rate their difficulty at this flow. Please use the International Whitewater Scale and also note if you portaged.

Rapid Location (name of Reach)	Whitewater Class	Portage? (yes or no)
		No
		No
		No

Portages:

If you used a portage as indicated in the question above, please rate the difficulty at this flow level.

Portage Location (name of site)	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	1	2	3	4
	1	2	3	4

Thank You for your Time and Consideration

Boater Evaluation Form

Saxon Falls - Montreal River Canyon Reach

(To Be Completed After Each Run)

Boater Information: (boater information other than name only needs to be completed once)

Name: <u>SANDRA NEWBURY</u>	Email Address: <u>PEZHTIGMAVEFUN@GMAIL.COM</u>	Zip Code: <u>53711</u>
Skill Level (check one): <input type="checkbox"/> -Advanced <input type="checkbox"/> -Expert <input type="checkbox"/> -Elite		
How many years have you boated at your current skill level?		<u>3</u> years
In the past three years, how many days a month do you boat?		<u>10+</u> days
How many times have you boated this run before today?		<u>0</u> times
If you boated this run before: What were the flows? <u>950</u> cfs		
What type of watercraft did you use? _____		
How far is this river stretch from you home? <u>250</u> miles		

Timing:

Date of the Run 5/15/21
 What was the flow during the run? 950 cfs

Watercraft:

What type of watercraft did you use for this run? (check one)

- Hardshell kayak -Inflatable kayak -Canoe -Other

Locations and Times:

Put-in Location: Saxon Falls Time: 3
 Take-out Location: Superior Falls Time: 4:20

Difficulty:

How would you rate the difficulty (Class I, Class II, etc.) of the reach?

CLASS II/III

(please see next page)

Enjoyment:

Are you likely to return for future boating if today's flow was to be provided?
(check one)

- Definitely No -Possibly -Probably -Definitely Yes

Relative to this specific flow release, would you prefer a flow that was higher, lower, or was this optimum? (check one)

- Much Lower -Lower -Higher -Much Higher -Optimum

Satisfaction:

Please respond to each of the following statements about the characteristics at this flow level (please circle one opinion)

Statement	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
Reach is boatable at this flow level.	1	2	3	4	5
Reach is safe at this flow level.	1	2	3	4	5
Overall, this is an aesthetically pleasing run.	1	2	3	4	5

Challenges:

Please identify particularly challenging rapids or section and rate their difficult at this flow. Please use the International Whitewater Scale and also note if you portaged.

Rapid Location (name of Reach)	Whitewater Class	Portage? (yes or no)
		no
		1

Portages:

If you used a portage as indicated in the question above, please rate the difficulty at this flow level.

Portage Location (name of site)	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	1	2	3	4
	1	2	3	4

Thank You for your Time and Consideration

Boater Evaluation Form

Saxon Falls - Montreal River Canyon Reach

(To Be Completed After Each Run)

Boater Information: (boater information other than name only needs to be completed once)

Name: <u>Rick Kladez</u>	Email Address: <u>RKLADE58@GMAIL</u>	Zip Code: <u>53901</u>
Skill Level (check one): <input type="checkbox"/> -Advanced <input type="checkbox"/> -Expert <input type="checkbox"/> -Elite		
How many years have you boated at your current skill level?		<u>30</u> years
In the past three years, how many days a month do you boat?		<u>10</u> days
How many times have you boated this run before today?		<u>1</u> times
If you boated this run before: What were the flows?		<u>?</u> cfs
What type of watercraft did you use? <u>KAYAK</u>		
How far is this river stretch from you home? <u>200</u> miles		

Timing:

Date of the Run 5/15/21
 What was the flow during the run? 700cfs

Watercraft:

What type of watercraft did you use for this run? (check one)

- Hardshell kayak -Inflatable kayak -Canoe -Other

Locations and Times:

Put-in Location: Saxon Falls Time: 11:00
 Take-out Location: Superior Falls Time: 12:45

Difficulty:

How would you rate the difficulty (Class I, Class II, etc.) of the reach?

CLASS II

(please see next page)

Enjoyment:

Are you likely to return for future boating if today's flow was to be provided?
(check one)

-Definitely No -Possibly -Probably -Definitely Yes

Relative to this specific flow release, would you prefer a flow that was higher, lower, or was this optimum? (check one)

-Much Lower -Lower -Higher -Much Higher -Optimum

Satisfaction:

Please respond to each of the following statements about the characteristics at this flow level (please circle one opinion)

Statement	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
Reach is boatable at this flow level.	1	2	3	4	5
Reach is safe at this flow level.	1	2	3	4	5
Overall, this is an aesthetically pleasing run.	1	2	3	4	5

Challenges:

Please identify particularly challenging rapids or section and rate their difficulty at this flow. Please use the International Whitewater Scale and also note if you portaged.

Rapid Location (name of Reach)	Whitewater Class	Portage? (yes or <u>no</u>)

Portages:

If you used a portage as indicated in the question above, please rate the difficulty at this flow level. NO

Portage Location (name of site)	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	1	2	3	4
	1	2	3	4

Thank You for your Time and Consideration

Boater Evaluation Form

Saxon Falls - Montreal River Canyon Reach

(To Be Completed After Each Run)

Boater Information: (boater information other than name only needs to be completed once)

Name: <u>RICK KLADZ</u>	Email Address: <u>RKLADES8@GMAIL</u>	Zip Code: <u>53901</u>
Skill Level (check one): <input type="checkbox"/> -Advanced <input checked="" type="checkbox"/> -Expert <input type="checkbox"/> -Elite		
How many years have you boated at your current skill level?		<u>30</u> years
In the past three years, how many days a month do you boat?		<u>10</u> days
How many times have you boated this run before today?		<u>1</u> times
If you boated this run before: What were the flows? _____ cfs		
What type of watercraft did you use? _____		
How far is this river stretch from you home? _____ miles		

Timing:

Date of the Run 5/15/01
 What was the flow during the run? 1000 cfs

Watercraft:

What type of watercraft did you use for this run? (check one)

- Hardshell kayak -Inflatable kayak -Canoe -Other

Locations and Times:

Put-in Location: Saxon Falls Time: 3:00
 Take-out Location: Superior Falls Time: 4:15

Difficulty:

How would you rate the difficulty (Class I, Class II, etc.) of the reach?

CLASS III

(please see next page)

Enjoyment:

Are you likely to return for future boating if today's flow was to be provided?
(check one)

-Definitely No -Possibly -Probably -Definitely Yes

Relative to this specific flow release, would you prefer a flow that was higher, lower, or was this optimum? (check one)

-Much Lower -Lower -Higher -Much Higher -Optimum

Satisfaction:

Please respond to each of the following statements about the characteristics at this flow level (please circle one opinion)

Statement	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
Reach is boatable at this flow level.	1	2	3	4	5
Reach is safe at this flow level.	1	2	3	4	5
Overall, this is an aesthetically pleasing run.	1	2	3	4	5

Challenges:

Please identify particularly challenging rapids or section and rate their difficulty at this flow. Please use the International Whitewater Scale and also note if you portaged.

NO

Rapid Location (name of Reach)	Whitewater Class	Portage? (yes or no)

Portages:

If you used a portage as indicated in the question above, please rate the difficulty at this flow level.

Portage Location (name of site)	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	1	2	3	4
	1	2	3	4

Thank You for your Time and Consideration

Boater Evaluation Form

Saxon Falls - Montreal River Canyon Reach (To Be Completed After Each Run)

Boater Information: (boater information other than name only needs to be completed once) ringjaked@gmail.com

Name: <u>Jake Ring</u>	Email Address: <u>ringjaked@gmail.com</u>	Zip Code: <u>49938</u>
Skill Level (check one): <input type="checkbox"/> -Advanced <input checked="" type="checkbox"/> -Expert <input checked="" type="checkbox"/> -Elite		
How many years have you boated at your current skill level?		<u>6</u> years
In the past three years, how many days a month do you boat?		<u>5</u> days
How many times have you boated this run before today?		<u>20?</u> times
If you boated this run before: What were the flows? <u>600-2200</u> cfs		
What type of watercraft did you use? <u>Kayak + raft</u>		
How far is this river stretch from you home? <u>15</u> miles		

Timing:

Date of the Run 5/15/21
 What was the flow during the run? 700 cfs

Watercraft:

What type of watercraft did you use for this run? (check one)

-Hardshell kayak -Inflatable kayak -Canoe -Other
10.5 ft. Raft.

Locations and Times:

Put-in Location: Saxon Falls Time: 10:00 AM
 Take-out Location: Superior Falls Time: 11:45 AM

Difficulty:

How would you rate the difficulty (Class I, Class II, etc.) of the reach?

Class 2+ / 3-

Enjoyment:

Are you likely to return for future boating if today's flow was to be provided?
(check one)

-Definitely No -Possibly -Probably -Definitely Yes

Relative to this specific flow release, would you prefer a flow that was higher, lower, or was this optimum? (check one)

-Much Lower -Lower -Higher -Much Higher -Optimum

Satisfaction:

Please respond to each of the following statements about the characteristics at this flow level (please circle one opinion)

Statement	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
Reach is boatable at this flow level.	1	2	3	4	5
Reach is safe at this flow level.	1	2	3	4	5
Overall, this is an aesthetically pleasing run.	1	2	3	4	5

Challenges:

Please identify particularly challenging rapids or section and rate their difficulty at this flow. Please use the International Whitewater Scale and also note if you portaged.

Rapid Location (name of Reach)	Whitewater Class	Portage? (yes or no)
All were good to go	Fun	no
Downed tree @ end	strainer	no @ 700 cfs.

Portages:

If you used a portage as indicated in the question above, please rate the difficulty at this flow level.

Portage Location (name of site)	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	1	2	3	4
	1	2	3	4

Thank You for your Time and Consideration

Boater Evaluation Form

Saxon Falls - Montreal River Canyon Reach

(To Be Completed After Each Run)

Boater Information: (boater information other than name only needs to be completed once) ringjaked@gmail.com

Name: <u>Jake Ring</u>	Email Address: _____	Zip Code: <u>49938</u>
Skill Level (check one): <input type="checkbox"/> -Advanced <input type="checkbox"/> -Expert <input checked="" type="checkbox"/> -Elite		
How many years have you boated at your current skill level?		<u>6</u> years
In the past three years, how many days a month do you boat?		_____ days
How many times have you boated this run before today?		_____ times
If you boated this run before: What were the flows? _____ cfs		
What type of watercraft did you use? _____		
How far is this river stretch from you home? _____ miles		

Timing:

Date of the Run 5/15/21

What was the flow during the run? 950 cfs

Watercraft:

What type of watercraft did you use for this run? (check one)

- Hardshell kayak
 -Inflatable kayak
 -Canoe
 -Other raft, 10.5 ft.

Locations and Times:

Put-in Location: Saxon Falls Time: 3:00 pm

Take-out Location: Superior Falls Time: 4:20 pm

Difficulty:

How would you rate the difficulty (Class I, Class II, etc.) of the reach?

class III

(please see next page)

Enjoyment:

Are you likely to return for future boating if today's flow was to be provided?
(check one)

-Definitely No -Possibly -Probably -Definitely Yes

Relative to this specific flow release, would you prefer a flow that was higher, lower, or was this optimum? (check one)

-Much Lower -Lower -Higher -Much Higher -Optimum

Satisfaction:

Please respond to each of the following statements about the characteristics at this flow level (please circle one opinion)

Statement	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
Reach is boatable at this flow level.	1	2	3	4	5
Reach is safe at this flow level.	1	2	3	4	5
Overall, this is an aesthetically pleasing run.	1	2	3	4	5

Challenges:

Please identify particularly challenging rapids or section and rate their difficulty at this flow. Please use the International Whitewater Scale and also note if you portaged.

Rapid Location (name of Reach)	Whitewater Class	Portage? (yes or no)
hwy 122 bridge near take out	—	No
↳ it won't be an issue at 1000 or less, probably not a problem ^{above} but will keep an eye on		

Portages:

If you used a portage as indicated in the question above, please rate the difficulty at this flow level.

Portage Location (name of site)	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
Down tree after rapids end.	1	2	3	4
	1	2	3	4

Thank You for your Time and Consideration

Boater Evaluation Form

Saxon Falls - Montreal River Canyon Reach

(To Be Completed After Each Run)

Boater Information: (boater information other than name only needs to be completed once)

Name: <u>Mike Croat</u>	Email Address: <u>mikecroat@sbeglobal.net</u>	Zip Code: <u>60024</u>
Skill Level (check one): <input type="checkbox"/> -Advanced <input checked="" type="checkbox"/> -Expert <input type="checkbox"/> -Elite		
How many years have you boated at your current skill level? <u>5</u>		years
In the past three years, how many days a month do you boat? <u>5</u>		days
How many times have you boated this run before today? <u>2</u>		times
If you boated this run before: What were the flows? <u>1200 cfs</u>		
What type of watercraft did you use? <u>Kayak</u>		
How far is this river stretch from you home? <u>300</u> miles		

Timing:

Date of the Run 5/15/21
 What was the flow during the run? 900 cfs

Watercraft:

What type of watercraft did you use for this run? (check one)

- Hardshell kayak -Inflatable kayak -Canoe -Other

Locations and Times:

Put-in Location: Saxon Falls Time: 3:00
 Take-out Location: Superior Falls Time: 4:15

Difficulty:

How would you rate the difficulty (Class I, Class II, etc.) of the reach?

III

(please see next page)

Enjoyment:

Are you likely to return for future boating if today's flow was to be provided?
(check one)

-Definitely No -Possibly -Probably -Definitely Yes

Relative to this specific flow release, would you prefer a flow that was higher, lower, or was this optimum? (check one)

-Much Lower -Lower -Higher -Much Higher -Optimum

Satisfaction:

Please respond to each of the following statements about the characteristics at this flow level (please circle one opinion)

Statement	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
Reach is boatable at this flow level.	1	2	3	4	5
Reach is safe at this flow level.	1	2	3	4	5
Overall, this is an aesthetically pleasing run.	1	2	3	4	5

Challenges:

Please identify particularly challenging rapids or section and rate their difficulty at this flow. Please use the International Whitewater Scale and also note if you portaged.

Rapid Location (name of Reach)	Whitewater Class	Portage? (yes or no)
		No

Portages:

If you used a portage as indicated in the question above, please rate the difficulty at this flow level. *None*

Portage Location (name of site)	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	1	2	3	4
	1	2	3	4

Thank You for your Time and Consideration

Boater Evaluation Form

Saxon Falls - Montreal River Canyon Reach

(To Be Completed After Each Run)

Boater Information: (boater information other than name only needs to be completed once) mikecroak@sbcglobal.net

Name: <u>Mike Croak</u>	Email Address:	Zip Code: <u>60044</u>
Skill Level (check one): <input type="checkbox"/> -Advanced <input checked="" type="checkbox"/> -Expert <input type="checkbox"/> -Elite		
How many years have you boated at your current skill level?		<u>15</u> years
In the past three years, how many days a month do you boat?		<u>5</u> days
How many times have you boated this run before today?		<u>2</u> times
If you boated this run before: What were the flows? <u>1300</u> cfs		
What type of watercraft did you use? <u>kayak</u>		
How far is this river stretch from you home? <u>300</u> miles		

Timing:

Date of the Run 5/15/21
 What was the flow during the run? 700 cfs

Watercraft:

What type of watercraft did you use for this run? (check one)

-Hardshell kayak -Inflatable kayak -Canoe -Other

Locations and Times:

Put-in Location: Saxon Falls Time: 10:00-11:15
 Take-out Location: Superior Falls Time: 12:00

Difficulty:

How would you rate the difficulty (Class I, Class II, etc.) of the reach?

II - III

(please see next page)

Enjoyment:

Are you likely to return for future boating if today's flow was to be provided?
(check one)

-Definitely No -Possibly -Probably -Definitely Yes

Relative to this specific flow release, would you prefer a flow that was higher, lower, or was this optimum? (check one)

-Much Lower -Lower -Higher -Much Higher -Optimum

Satisfaction:

Please respond to each of the following statements about the characteristics at this flow level (please circle one opinion)

Statement	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
Reach is boatable at this flow level.	1	2	3	4	5
Reach is safe at this flow level.	1	2	3	4	5
Overall, this is an aesthetically pleasing run.	1	2	3	4	5

Challenges:

Please identify particularly challenging rapids or section and rate their difficulty at this flow. Please use the International Whitewater Scale and also note if you portaged.

Rapid Location (name of Reach)	Whitewater Class	Portage? (yes or no)
Montreal Canyon	II - III	No

Portages: None

If you used a portage as indicated in the question above, please rate the difficulty at this flow level.

Portage Location (name of site)	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	1	2	3	4
	1	2	3	4

Thank You for your Time and Consideration

Boater Evaluation Form

Saxon Falls - Montreal River Canyon Reach (To Be Completed After Each Run)

Boater Information: (boater information other than name only needs to be completed once)

Name: <u>Tim Kordecki</u>	Email Address: <u>TKord7@aol.com</u>	Zip Code: <u>49938</u>
Skill Level (check one): <input type="checkbox"/> -Advanced <input checked="" type="checkbox"/> -Expert <input type="checkbox"/> -Elite		
How many years have you boated at your current skill level?		<u>3</u> years
In the past three years, how many days a month do you boat?		<u>4</u> days
How many times have you boated this run before today?		<u>2</u> times
If you boated this run before: What were the flows? <u>600</u> cfs		
What type of watercraft did you use? <u>Kayak</u>		
How far is this river stretch from you home? <u>10</u> miles		

Timing:

Date of the Run 5/15/21

What was the flow during the run? 700 cfs

Watercraft:

What type of watercraft did you use for this run? (check one)

-Hardshell kayak -Inflatable kayak -Canoe -Other

Locations and Times:

Put-in Location: Saxon Falls Time: _____

Take-out Location: Superior Falls Time: _____

Difficulty:

How would you rate the difficulty (Class I, Class II, etc.) of the reach?

Class 2 & 3

(please see next page)

h
m

Enjoyment:

Are you likely to return for future boating if today's flow was to be provided?
(check one)

-Definitely No -Possibly -Probably -Definitely Yes

Relative to this specific flow release, would you prefer a flow that was higher, lower, or was this optimum? (check one)

-Much Lower -Lower -Higher -Much Higher -Optimum

Satisfaction:

Please respond to each of the following statements about the characteristics at this flow level (please circle one opinion)

Statement	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
Reach is boatable at this flow level.	1	2	3	4	5
Reach is safe at this flow level.	1	2	3	4	5
Overall, this is an aesthetically pleasing run.	1	2	3	4	5

Challenges:

Please identify particularly challenging rapids or section and rate their difficulty at this flow. Please use the International Whitewater Scale and also note if you portaged.

Rapid Location (name of Reach)	Whitewater Class	Portage? (yes or no)
First rapid	3	NO
Halfway hole	3	NO

Portages:

If you used a portage as indicated in the question above, please rate the difficulty at this flow level.

Portage Location (name of site)	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	1	2	3	4
	1	2	3	4

Thank You for your Time and Consideration

Boater Evaluation Form

Saxon Falls - Montreal River Canyon Reach

(To Be Completed After Each Run)

Boater Information: (boater information other than name only needs to be completed once)

Name: <u>Tim Kordecki</u>	Email Address:	Zip Code:
Skill Level (check one):	<input type="checkbox"/> -Advanced	<input type="checkbox"/> -Expert <input type="checkbox"/> -Elite
How many years have you boated at your current skill level?		years
In the past three years, how many days a month do you boat?		days
How many times have you boated this run before today?		times
If you boated this run before: What were the flows? _____ cfs		
What type of watercraft did you use? _____		
How far is this river stretch from you home?		miles

Timing:

Date of the Run 5/15/21
What was the flow during the run? 450 cfs

Watercraft:

What type of watercraft did you use for this run? (check one)

-Hardshell kayak -Inflatable kayak -Canoe -Other

Locations and Times:

Put-in Location: Saxon Falls Time: _____

Take-out Location: Superior Falls Time: _____

Difficulty:

How would you rate the difficulty (Class I, Class II, etc.) of the reach?

CLASS 3+

(please see next page)

Enjoyment:

Are you likely to return for future boating if today's flow was to be provided?

(check one)

-Definitely No -Possibly -Probably -Definitely Yes

Relative to this specific flow release, would you prefer a flow that was higher, lower, or was this optimum? (check one)

-Much Lower -Lower -Higher -Much Higher -Optimum

Satisfaction:

Please respond to each of the following statements about the characteristics at this flow level (please circle one opinion)

Statement	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
Reach is boatable at this flow level.	1	2	3	4	5
Reach is safe at this flow level.	1	2	3	4	5
Overall, this is an aesthetically pleasing run.	1	2	3	4	5

Challenges:

Please identify particularly challenging rapids or section and rate their difficulty at this flow. Please use the International Whitewater Scale and also note if you portaged.

Rapid Location (name of Reach)	Whitewater Class	Portage? (yes or no)
3 rd feature	3	NO

Portages:

If you used a portage as indicated in the question above, please rate the difficulty at this flow level.

Portage Location (name of site)	Easy	Slightly Difficult	Moderately Difficult	Extremely Difficult
	1	2	3	4
	1	2	3	4

Thank You for your Time and Consideration

Summary Boater Evaluation Form

Saxon Falls - Montreal River Canyon Reach

(To Be Completed After All Runs)

Boater Information:

Croak
mike croak@stbglobal.net

Name: <u>Mike Croak</u>	Email Address: <u>mike croak@stbglobal.net</u>	Zip Code: <u>60074</u>
Skill Level (check one):		
<input type="checkbox"/> -Advanced	<input checked="" type="checkbox"/> -Expert	<input type="checkbox"/> -Elite

Flow Levels:

Based upon all of your boating trips at various flow levels, please answer the following:

What is the optimal range that provides the best whitewater boating for this reach? 1500 cfs 1500-2500

What do you feel the highest safe flow is for your craft and skill level? 15,000 cfs

For you, what is the optimum flow for this run? 1500-2500 cfs

What is the best or optimal flow for a "standard" trip? 1000 cfs

What is the best or optimal flow for a "high challenge" trip? 2500 cfs

If one flow for boating was released, what flow would you prefer? 1500 cfs

Run Specifics:

Please respond to each of the following statements about the characteristics at this flow level (please circle one opinion).

Statement	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
This run is a good length.	1	2	3	4	5
The portages (if any) on this run are not a problem.	1	2	3	4	5

Use of the Run:

Are you likely to return for future boating if the optimum flow would be provided? (check one)

-Definitely No -Possibly -Probably -Definitely Yes

What months would you return to boat? (check one)

-Apr -May -Jun -Jul -Aug -Sep -Oct -Nov

How would you like to receive flow information? (check one)

-Telephone Number with Recording -Website Information -Email Notification

Do you believe any of the flows provided today would be suitable for beginning boaters? (check one)

-Definitely No -Possibly -Probably -Definitely Yes

If so, Which flow Level(s)? 700-800

Do you believe any of the flows provided today would be suitable for play boating? (check one)

-Definitely No -Possibly -Probably -Definitely Yes

If so, Which flow Level(s)? Both 700 + 950 were good, but 950 is better

Is there another whitewater boating opportunity in the area that is preferable to the two test flows today? No (yes or no).

What is the name of the preferable whitewater boating opportunity? _____

What is the class of the preferable whitewater boating opportunity? _____

Is the preferable whitewater boating opportunity more challenging than the two test flows today? Yes (yes or no)

Does the preferable whitewater boating opportunity have more potential for boatability than the two test flows today? _____ (yes or no)

Hypothetical Flow Releases

For the following questions, please provide an overall evaluation for the range of water levels available on the river. In making your evaluations, consider all the flow dependent characteristics that contribute to a high quality trip (boatability, WW challenge, WW play, safety, aesthetics, and length of run). If you do not feel comfortable evaluating a flow you have not seen, leave that row blank.

Based on your preferences today, the following flow releases would create a desirable boating experience on this reach (check yes or no):

Flow Release (cfs)	Yes	No
600	<input checked="" type="checkbox"/>	<input type="checkbox"/>
700	<input checked="" type="checkbox"/>	<input type="checkbox"/>
800	<input checked="" type="checkbox"/>	<input type="checkbox"/>
900	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1000	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1,100	<input checked="" type="checkbox"/>	<input type="checkbox"/>
1,200	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Thank You for your Time and Consideration

Summary Boater Evaluation Form

Saxon Falls - Montreal River Canyon Reach

(To Be Completed After All Runs)

Boater Information:

Name: <u>Jason Pientke</u>	Email Address: <u>RooFrvJason@Live.com</u>	Zip Code: <u>49802</u>
Skill Level (check one): <input type="checkbox"/> -Advanced <input checked="" type="checkbox"/> -Expert <input type="checkbox"/> -Elite		

Flow Levels:

Based upon all of your boating trips at various flow levels, please answer the following:

What is the optimal range that provides the best whitewater boating for this reach? 1000 cfs

What do you feel the highest safe flow is for your craft and skill level? 4K-5K + cfs

For you, what is the optimum flow for this run? 2K+ cfs

What is the best or optimal flow for a "standard" trip? 1 to 1.5K cfs ^{1000 to 1500}

What is the best or optimal flow for a "high challenge" trip? 4K to 5K cfs

If one flow for boating was released, what flow would you prefer? 1 to 2K cfs

Run Specifics:

Please respond to each of the following statements about the characteristics at this flow level (please circle one opinion).

Statement	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
This run is a good length.	1	2	3	4	<u>5</u>
The portages (if any) on this run are not a problem.	1	2	3	4	<u>5</u>

Use of the Run:

Are you likely to return for future boating if the optimum flow would be provided? (check one)

-Definitely No -Possibly -Probably -Definitely Yes

What months would you return to boat? (check one)

-Apr -May -Jun -Jul -Aug -Sep -Oct -Nov

How would you like to receive flow information? (check one)

-Telephone Number with Recording -Website Information -Email Notification

Do you believe any of the flows provided today would be suitable for beginning boaters? (check one)

-Definitely No -Possibly -Probably -Definitely Yes

If so, Which flow Level(s)? 700-1000 cfs

Do you believe any of the flows provided today would be suitable for play boating? (check one)

-Definitely No -Possibly -Probably -Definitely Yes

If so, Which flow Level(s)? 1000

Is there another whitewater boating opportunity in the area that is preferable to the two test flows today? no (yes or no).

What is the name of the preferable whitewater boating opportunity? /

What is the class of the preferable whitewater boating opportunity? /

Is the preferable whitewater boating opportunity more challenging than the two test flows today? NA (yes or no)

Does the preferable whitewater boating opportunity have more potential for boatability than the two test flows today? NA (yes or no)

Hypothetical Flow Releases

For the following questions, please provide an overall evaluation for the range of water levels available on the river. In making your evaluations, consider all the flow dependent characteristics that contribute to a high quality trip (boatability, WW challenge, WW play, safety, aesthetics, and length of run). If you do not feel comfortable evaluating a flow you have not seen, leave that row blank.

Based on your preferences today, the following flow releases would create a desirable boating experience on this reach (check yes or no):

Flow Release (cfs)	Yes	No
600	yes to all	
700		
800		
900		
1000	} The Best Range	
1,100		
1,200		

Thank You for your Time and Consideration

Summary Boater Evaluation Form

Saxon Falls - Montreal River Canyon Reach

(To Be Completed After All Runs)

Boater Information:

ringjaked@gmail.com

Name: <i>Jake Ring</i>	Email Address:	Zip Code: <i>49938</i>
Skill Level (check one): <input type="checkbox"/> -Advanced <input type="checkbox"/> -Expert <input checked="" type="checkbox"/> -Elite		

Flow Levels:

Based upon all of your boating trips at various flow levels, please answer the following:

What is the optimal range that provides the best whitewater boating for this reach? 950 + cfs

What do you feel the highest safe flow is for your craft and skill level? ? cfs *I feel fine at all flows.*

For you, what is the optimum flow for this run? 1500? cfs

What is the best or optimal flow for a "standard" trip? 1100 cfs

What is the best or optimal flow for a "high challenge" trip? 2000 + cfs *(still not hard)*

If one flow for boating was released, what flow would you prefer? 1200 cfs

Run Specifics:

Please respond to each of the following statements about the characteristics at this flow level (please circle one opinion).

Statement	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
This run is a good length.	1	2	3	4	5
The portages (if any) on this run are not a problem.	1	2	3	4	5

Use of the Run:

Are you likely to return for future boating if the optimum flow would be provided? (check one)

- Definitely No -Possibly -Probably -Definitely Yes

What months would you return to boat? (check one)

- Apr -May -Jun -Jul -Aug -Sep -Oct -Nov *All*

How would you like to receive flow information? (check one)

- Telephone Number with Recording -Website Information -Email Notification

Do you believe any of the flows provided today would be suitable for beginning boaters? (check one)

- Definitely No -Possibly -Probably -Definitely Yes

If so, Which flow Level(s)? All

Do you believe any of the flows provided today would be suitable for play boating? (check one)

- Definitely No -Possibly -Probably -Definitely Yes

If so, Which flow Level(s)? 1000 up

Is there another whitewater boating opportunity in the area that is preferable to the two test flows today? Nope (yes or no). *This is the best!!!*

What is the name of the preferable whitewater boating opportunity? The Montreal Canyon

What is the class of the preferable whitewater boating opportunity? This is.

Is the preferable whitewater boating opportunity more challenging than the two test flows today? _____ (yes or no)

Does the preferable whitewater boating opportunity have more potential for boatability than the two test flows today? _____ (yes or no)

This is the best, only run to think of - World Class!!!

Hypothetical Flow Releases

For the following questions, please provide an overall evaluation for the range of water levels available on the river. In making your evaluations, consider all the flow dependent characteristics that contribute to a high quality trip (boatability, WW challenge, WW play, safety, aesthetics, and length of run). If you do not feel comfortable evaluating a flow you have not seen, leave that row blank.

Based on your preferences today, the following flow releases would create a desirable boating experience on this reach (check yes or no):

Flow Release (cfs)	Yes	No
600	<input checked="" type="radio"/>	<input type="radio"/> It is the minimum I would do.
700	<input type="radio"/>	<input checked="" type="radio"/>
800	<input type="radio"/>	<input checked="" type="radio"/>
900	<input type="radio"/>	<input checked="" type="radio"/>
1000	<input type="radio"/>	<input checked="" type="radio"/>
1,100	<input type="radio"/>	<input checked="" type="radio"/>
1,200	<input type="radio"/>	<input checked="" type="radio"/>

Thank You for your Time and Consideration

Summary Boater Evaluation Form

Saxon Falls - Montreal River Canyon Reach

(To Be Completed After All Runs)

Boater Information:

RRIADE50@GMAIL

Name: <i>Rick Klacke</i>	Email Address:	Zip Code: <i>53901</i>
Skill Level (check one): <input type="checkbox"/> -Advanced <input checked="" type="checkbox"/> -Expert <input type="checkbox"/> -Elite		

Flow Levels:

Based upon all of your boating trips at various flow levels, please answer the following:

What is the optimal range that provides the best whitewater boating for this reach? 1000 cfs

What do you feel the highest safe flow is for your craft and skill level? 5000 cfs

For you, what is the optimum flow for this run? 1000 cfs

What is the best or optimal flow for a "standard" trip? 1000 cfs

What is the best or optimal flow for a "high challenge" trip? 5000 cfs

If one flow for boating was released, what flow would you prefer? 1000 cfs

Run Specifics:

Please respond to each of the following statements about the characteristics at this flow level (please circle one opinion).

Statement	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
This run is a good length.	1	2	3	4	5
The portages (if any) on this run are not a problem.	1	2	3	4	5

Use of the Run:

Are you likely to return for future boating if the optimum flow would be provided? (check one)

-Definitely No -Possibly -Probably -Definitely Yes

What months would you return to boat? (check one)

-Apr -May -Jun -Jul -Aug -Sep -Oct -Nov

How would you like to receive flow information? (check one)

-Telephone Number with Recording -Website Information -Email Notification

Do you believe any of the flows provided today would be suitable for beginning boaters? (check one)

-Definitely No -Possibly -Probably -Definitely Yes

If so, Which flow Level(s)? 600

Do you believe any of the flows provided today would be suitable for play boating? (check one)

-Definitely No -Possibly -Probably -Definitely Yes

If so, Which flow Level(s)? 1000

Is there another whitewater boating opportunity in the area that is preferable to the two test flows today? NO (yes or no).

What is the name of the preferable whitewater boating opportunity? _____

What is the class of the preferable whitewater boating opportunity? _____

Is the preferable whitewater boating opportunity more challenging than the two test flows today? NO (yes or no)

Does the preferable whitewater boating opportunity have more potential for boatability than the two test flows today? NO (yes or no)

Hypothetical Flow Releases

For the following questions, please provide an overall evaluation for the range of water levels available on the river. In making your evaluations, consider all the flow dependent characteristics that contribute to a high quality trip (boatability, WW challenge, WW play, safety, aesthetics , and length of run). If you do not feel comfortable evaluating a flow you have not seen, leave that row blank.

Based on your preferences today, the following flow releases would create a desirable boating experience on this reach (check yes or no):

Flow Release (cfs)	Yes	No
600		
700	X	
800	X	
900	X	
1000	X	
1,100		
1,200		

Thank You for your Time and Consideration

Summary Boater Evaluation Form

Saxon Falls - Montreal River Canyon Reach

(To Be Completed After All Runs)

Boater Information:

Name:	Email Address:	Zip Code:
Skill Level (check one): <input type="checkbox"/> -Advanced <input type="checkbox"/> -Expert <input type="checkbox"/> -Elite		

Flow Levels:

Based upon all of your boating trips at various flow levels, please answer the following:

What is the optimal range that provides the best whitewater boating for this reach? 950+ cfs

What do you feel the highest safe flow is for your craft and skill level? UNKNOWN PERFECTLY SAFE AT 950LF cfs

For you, what is the optimum flow for this run? 950+ cfs

What is the best or optimal flow for a "standard" trip? 950+ cfs

What is the best or optimal flow for a "high challenge" trip? OVER 1000 cfs

If one flow for boating was released, what flow would you prefer? 950+ cfs

Run Specifics:

Please respond to each of the following statements about the characteristics at this flow level (please circle one opinion).

Statement	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
This run is a good length.	1	2	3	4	<u>5</u>
The portages (if any) on this run are not a problem.	1	2	3	4	<u>5</u>

Use of the Run:

Are you likely to return for future boating if the optimum flow would be provided? (check one)

- Definitely No -Possibly -Probably -Definitely Yes

What months would you return to boat? (check one)

- Apr -May -Jun -Jul -Aug -Sep -Oct -Nov

How would you like to receive flow information? (check one)

- Telephone Number with Recording -Website Information -Email Notification

Do you believe any of the flows provided today would be suitable for beginning boaters? (check one)

- Definitely No -Possibly -Probably -Definitely Yes

If so, Which flow Level(s)? 700 CFS FOR KAYAKS 950+ FOR RAFTERS

Do you believe any of the flows provided today would be suitable for play boating? (check one)

- Definitely No -Possibly -Probably -Definitely Yes

If so, Which flow Level(s)? 950+

Is there another whitewater boating opportunity in the area that is preferable to the two test flows today? _____ (yes or no). DEPENDS ON FLOWS

THERE ARE OTHER OPTIONS DEPENDING ON WATER LEVELS
What is the name of the preferable whitewater boating opportunity? _____
BUT VERY FEW IN THIS AREA

What is the class of the preferable whitewater boating opportunity? _____

Is the preferable whitewater boating opportunity more challenging than the two test flows today? _____ (yes or no)

Does the preferable whitewater boating opportunity have more potential for boatability than the two test flows today? No (yes or no)

Hypothetical Flow Releases

For the following questions, please provide an overall evaluation for the range of water levels available on the river. In making your evaluations, consider all the flow dependent characteristics that contribute to a high quality trip (boatability, WW challenge, WW play, safety, aesthetics , and length of run). If you do not feel comfortable evaluating a flow you have not seen, leave that row blank.

Based on your preferences today, the following flow releases would create a desirable boating experience on this reach (check yes or no):

Flow Release (cfs)	Yes	No
600		
700		
800		
900		
1000		
1,100		
1,200		

Thank You for your Time and Consideration

Summary Boater Evaluation Form

Saxon Falls - Montreal River Canyon Reach

(To Be Completed After All Runs)

Boater Information:

Name: <u>RACHEL URBAN</u>	Email Address: _____	Zip Code: <u>54703</u>
Skill Level (check one): <input type="checkbox"/> -Advanced <input type="checkbox"/> -Expert <input type="checkbox"/> -Elite <input checked="" type="checkbox"/> <u>intermediate</u>		

Flow Levels:

Based upon all of your boating trips at various flow levels, please answer the following:

What is the optimal range that provides the best whitewater boating for this reach? 950 cfs → THAT WAS A PEACH.

What do you feel the highest safe flow is for your craft and skill level? 950 cfs

For you, what is the optimum flow for this run? 950 cfs

What is the best or optimal flow for a "standard" trip? 900 cfs

What is the best or optimal flow for a "high challenge" trip? 1,500 cfs

If one flow for boating was released, what flow would you prefer? 950 cfs

last run was best level → less rocks for hazard

Run Specifics:

Please respond to each of the following statements about the characteristics at this flow level (please circle one opinion).

Statement	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
This run is a good length.	1	2	3	4	(5)
The portages (if any) on this run are not a problem.	1	2	3	(4)	5

Use of the Run:

Are you likely to return for future boating if the optimum flow would be provided? (check one)

-Definitely No -Possibly -Probably -Definitely Yes

What months would you return to boat? (check one)

-Apr -May -Jun -Jul -Aug -Sep -Oct -Nov

How would you like to receive flow information? (check one)

-Telephone Number with Recording -Website Information -Email Notification

Do you believe any of the flows provided today would be suitable for beginning boaters? (check one)

-Definitely No -Possibly -Probably -Definitely Yes

If so, Which flow Level(s)? 850 - 900 cfs

Do you believe any of the flows provided today would be suitable for play boating? (check one)

-Definitely No -Possibly -Probably -Definitely Yes

If so, Which flow Level(s)? 950 cfs → a lot of hard boats were playing.

Is there another whitewater boating opportunity in the area that is preferable to the two test flows today? no clue. (yes or no).

What is the name of the preferable whitewater boating opportunity? N/A

What is the class of the preferable whitewater boating opportunity? II to III

Is the preferable whitewater boating opportunity more challenging than the two test flows today? N/A (yes or no)

Does the preferable whitewater boating opportunity have more potential for boatability than the two test flows today? N/A (yes or no)

Hypothetical Flow Releases

For the following questions, please provide an overall evaluation for the range of water levels available on the river. In making your evaluations, consider all the flow dependent characteristics that contribute to a high quality trip (boatability, WW challenge, WW play, safety, aesthetics, and length of run). If you do not feel comfortable evaluating a flow you have not seen, leave that row blank.

Based on your preferences today, the following flow releases would create a desirable boating experience on this reach (check yes or no):

Flow Release (cfs)	Yes	No
600		✓
700		✓
800	✓	
900	✓	
1000	✓	
1,100	✓	
1,200		✓

Thank You for your Time and Consideration

THANK YOU
FOR HAVING
US! ALOT OF
FUN &
HOPE TO COME
BACK

Summary Boater Evaluation Form

Saxon Falls - Montreal River Canyon Reach

(To Be Completed After All Runs)

Boater Information:

Name: <u>Joe Christiansen</u>	Email Address:	Zip Code:
Skill Level (check one): <input checked="" type="checkbox"/> -Advanced <input type="checkbox"/> -Expert <input type="checkbox"/> -Elite		

Flow Levels:

Based upon all of your boating trips at various flow levels, please answer the following:

What is the optimal range that provides the best whitewater boating for this reach? 4,100 cfs

What do you feel the highest safe flow is for your craft and skill level? 2,500 cfs

For you, what is the optimum flow for this run? 1300 cfs

What is the best or optimal flow for a "standard" trip? 900 cfs

What is the best or optimal flow for a "high challenge" trip? 2500+ cfs

If one flow for boating was released, what flow would you prefer? 1300 cfs

Run Specifics:

Please respond to each of the following statements about the characteristics at this flow level (please circle one opinion).

Statement	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
This run is a good length.	1	2	3	4	5
The portages (if any) on this run are not a problem.	1	2	3	4	5

Use of the Run:

Are you likely to return for future boating if the optimum flow would be provided? (check one)

-Definitely No -Possibly -Probably -Definitely Yes

What months would you return to boat? (check one)

-Apr -May -Jun -Jul -Aug -Sep -Oct -Nov

How would you like to receive flow information? (check one)

-Telephone Number with Recording -Website Information -Email Notification

Do you believe any of the flows provided today would be suitable for beginning boaters? (check one)

-Definitely No -Possibly -Probably -Definitely Yes

If so, Which flow Level(s)? 600 - 800 cfs

Do you believe any of the flows provided today would be suitable for play boating? (check one)

-Definitely No -Possibly -Probably -Definitely Yes

If so, Which flow Level(s)? 1,000 - 1,200

Is there another whitewater boating opportunity in the area that is preferable to the two test flows today? no (yes or no).

What is the name of the preferable whitewater boating opportunity? _____

What is the class of the preferable whitewater boating opportunity? _____

Is the preferable whitewater boating opportunity more challenging than the two test flows today? no (yes or no)

Does the preferable whitewater boating opportunity have more potential for boatability than the two test flows today? no (yes or no)

Hypothetical Flow Releases

For the following questions, please provide an overall evaluation for the range of water levels available on the river. In making your evaluations, consider all the flow dependent characteristics that contribute to a high quality trip (boatability, WW challenge, WW play, safety, aesthetics, and length of run). If you do not feel comfortable evaluating a flow you have not seen, leave that row blank.

Based on your preferences today, the following flow releases would create a desirable boating experience on this reach (check yes or no):

Flow Release (cfs)	Yes	No
600		X
700		X
800	<i>no</i>	X
900	X	
1000	X	
1,100	X	
1,200	X	

Thank You for your Time and Consideration

Summary Boater Evaluation Form

Saxon Falls - Montreal River Canyon Reach

(To Be Completed After All Runs)

Boater Information:

Wiansa@gmail.com

Name: <i>ANDY WIANIS</i>	Email Address:	Zip Code: <i>54703</i>
Skill Level (check one): <input type="checkbox"/> -Advanced <input type="checkbox"/> -Expert <input type="checkbox"/> -Elite <input checked="" type="checkbox"/> <i>Int.</i>		

Flow Levels:

Based upon all of your boating trips at various flow levels, please answer the following:

What is the optimal range that provides the best whitewater boating for this reach? *1-1.5K* cfs

What do you feel the highest safe flow is for your craft and skill level? *2000* cfs

For you, what is the optimum flow for this run? *1.3K* cfs

What is the best or optimal flow for a "standard" trip? *1.2K* cfs

What is the best or optimal flow for a "high challenge" trip? *2K* cfs

If one flow for boating was released, what flow would you prefer? *1.2K* cfs

Run Specifics:

Please respond to each of the following statements about the characteristics at this flow level (please circle one opinion).

Statement	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
This run is a good length.	1	2	3	4	<u>5</u>
The portages (if any) on this run are not a problem.	1	2	3	4	<u>5</u>

Use of the Run:

Are you likely to return for future boating if the optimum flow would be provided? (check one)

-Definitely No -Possibly -Probably -Definitely Yes

What months would you return to boat? (check one)

-Apr -May -Jun -Jul -Aug -Sep -Oct -Nov

How would you like to receive flow information? (check one)

-Telephone Number with Recording -Website Information -Email Notification

Do you believe any of the flows provided today would be suitable for beginning boaters? (check one)

-Definitely No -Possibly -Probably -Definitely Yes

If so, Which flow Level(s)? 900-11c

Do you believe any of the flows provided today would be suitable for play boating? (check one)

-Definitely No -Possibly -Probably -Definitely Yes

If so, Which flow Level(s)? 14c

Is there another whitewater boating opportunity in the area that is preferable to the two test flows today? _____ (yes or no).

What is the name of the preferable whitewater boating opportunity? _____

What is the class of the preferable whitewater boating opportunity? _____

Is the preferable whitewater boating opportunity more challenging than the two test flows today? _____ (yes or no)

Does the preferable whitewater boating opportunity have more potential for boatability than the two test flows today? _____ (yes or no)

Hypothetical Flow Releases

For the following questions, please provide an overall evaluation for the range of water levels available on the river. In making your evaluations, consider all the flow dependent characteristics that contribute to a high quality trip (boatability, WW challenge, WW play, safety, aesthetics, and length of run). If you do not feel comfortable evaluating a flow you have not seen, leave that row blank.

Based on your preferences today, the following flow releases would create a desirable boating experience on this reach (check yes or no):

RAFT

Flow Release (cfs)	Yes	No
600		✓
700		✓
800	✓	
900	✓	
1000	✓	
1,100	✓	
1,200	✓	

Thank You for your Time and Consideration

Felt comfortable as a beginner rafter. Nothing of real high consequence, but the whole stretch had a lot of fun elements + great scenery. More people need to experience this!

Summary Boater Evaluation Form

Saxon Falls - Montreal River Canyon Reach

(To Be Completed After All Runs)

Megan Sue Drew @

Boater Information:

megansuedrew@gmail.com

Name: Megan Easterling	Email Address:	Zip Code: 49802
Skill Level (check one): <input type="checkbox"/> -Advanced <input type="checkbox"/> -Expert <input type="checkbox"/> -Elite <input type="checkbox"/> -Intermediate		

Flow Levels:

Based upon all of your boating trips at various flow levels, please answer the following:

What is the optimal range that provides the best whitewater boating for this reach? 1500-2K cfs

What do you feel the highest safe flow is for your craft and skill level? 2K cfs

For you, what is the optimum flow for this run? 1K cfs

What is the best or optimal flow for a "standard" trip? 1500 cfs

What is the best or optimal flow for a "high challenge" trip? ? cfs IDK

If one flow for boating was released, what flow would you prefer? 1500-2K cfs

Run Specifics:

Please respond to each of the following statements about the characteristics at this flow level (please circle one opinion).

Statement	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
This run is a good length.	1	2	3	4	5
The portages (if any) on this run are not a problem.	1	2	3	4	5

Most features cant easily be scouted or portaged

Flat water ~~too~~ tree down needs removal

Use of the Run:

Are you likely to return for future boating if the optimum flow would be provided? (check one)

- Definitely No
- Possibly
- Probably
- Definitely Yes

What months would you return to boat? (check one) ALL

- Apr
- May
- Jun
- Jul
- Aug
- Sep
- Oct
- Nov

How would you like to receive flow information? (check one)

- Telephone Number with Recording
- Website Information
- Email Notification

Do you believe any of the flows provided today would be suitable for beginning boaters? (check one)

- Definitely No
- Possibly
- Probably
- Definitely Yes

If so, Which flow Level(s)? Probably shouldn't be doing a CANYON if

true beginner. They should raft at >1K

Do you believe any of the flows provided today would be suitable for play boating? (check one)

- Definitely No
- Possibly
- Probably
- Definitely Yes

If so, Which flow Level(s)? _____

Is there another whitewater boating opportunity in the area that is preferable to the two test flows today? Y (yes or no).

1. Higher flow

2. Grandfather Falls release was also today

What is the name of the preferable whitewater boating opportunity? Grandfather Falls

What is the class of the preferable whitewater boating opportunity? III - IV

Is the preferable whitewater boating opportunity more challenging than the two test flows today? (yes) or no)

Does the preferable whitewater boating opportunity have more potential for boatability than the two test flows today? (yes) or no)

especially than the low flow

Hypothetical Flow Releases

For the following questions, please provide an overall evaluation for the range of water levels available on the river. In making your evaluations, consider all the flow dependent characteristics that contribute to a high quality trip (boatability, WW challenge, WW play, safety, aesthetics , and length of run). If you do not feel comfortable evaluating a flow you have not seen, leave that row blank.

Based on your preferences today, the following flow releases would create a desirable boating experience on this reach (check yes or no):

Flow Release (cfs)	Yes	No
600		-
700		-
800	X	
900	X	
1000	X	
1,100	✓	
1,200	X	

Thank You for your Time and Consideration

Summary Boater Evaluation Form

Saxon Falls - Montreal River Canyon Reach

(To Be Completed After All Runs)

Boater Information:

Jon

@bluewater-realty.org

Name: <i>Jon Wheeler</i>	Email Address: <i>jon@bluewater-realty.org</i>	Zip Code: <i>54891</i>
Skill Level (check one): <input checked="" type="checkbox"/> -Advanced <input type="checkbox"/> -Expert <input type="checkbox"/> -Elite		

Flow Levels:

Based upon all of your boating trips at various flow levels, please answer the following:

What is the optimal range that provides the best whitewater boating for this reach? *1000-1500* cfs

What do you feel the highest safe flow is for your craft and skill level? *10,000* cfs

For you, what is the optimum flow for this run? *1,000-1,500* cfs

What is the best or optimal flow for a "standard" trip? *1,000* cfs

What is the best or optimal flow for a "high challenge" trip? *2,000+* cfs

If one flow for boating was released, what flow would you prefer? *1,000* cfs

Run Specifics:

Please respond to each of the following statements about the characteristics at this flow level (please circle one opinion).

Statement	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
This run is a good length.	1	2	3	4	5
The portages (if any) on this run are not a problem.	1	2	3	4	5

Use of the Run:

Are you likely to return for future boating if the optimum flow would be provided? (check one)

- Definitely No -Possibly -Probably -Definitely Yes

What months would you return to boat? (check one)

- Apr -May -Jun -Jul -Aug -Sep -Oct -Nov

How would you like to receive flow information? (check one)

- Telephone Number with Recording -Website Information *preferred* -Email Notification

Do you believe any of the flows provided today would be suitable for beginning boaters? (check one)

- Definitely No -Possibly -Probably -Definitely Yes

If so, Which flow Level(s)? This isn't a river for total beginners. But it's great for intermediates.

Do you believe any of the flows provided today would be suitable for play boating? (check one)

- Definitely No -Possibly -Probably -Definitely Yes

If so, Which flow Level(s)? 1,000 cfs - was a great level

Is there another whitewater boating opportunity in the area that is preferable to the two test flows today? _____ (yes or no).

What is the name of the preferable whitewater boating opportunity? _____

What is the class of the preferable whitewater boating opportunity? _____

Is the preferable whitewater boating opportunity more challenging than the two test flows today? _____ (yes or no)

Does the preferable whitewater boating opportunity have more potential for boatability than the two test flows today? _____ (yes or no)

Hypothetical Flow Releases

For the following questions, please provide an overall evaluation for the range of water levels available on the river. In making your evaluations, consider all the flow dependent characteristics that contribute to a high quality trip (boatability, WW challenge, WW play, safety, aesthetics, and length of run). If you do not feel comfortable evaluating a flow you have not seen, leave that row blank.

Based on your preferences today, the following flow releases would create a desirable boating experience on this reach (check yes or no):

Flow Release (cfs)	Yes	No
600	✓ low is okay	
700	✓ "	
800	✓ getting better	
900	✓ more fun, better	
1000	✓ level for waves	
1,100	✓ "	
1,200	✓ "	

Thank You for your Time and Consideration

Summary Boater Evaluation Form

Saxon Falls - Montreal River Canyon Reach

(To Be Completed After All Runs)

Boater Information:

Name: <u>Tim Kordecki</u>	Email Address: <u>tkordec@aoi.com</u>	Zip Code: <u>49938</u>
Skill Level (check one): <input type="checkbox"/> -Advanced <input checked="" type="checkbox"/> -Expert <input type="checkbox"/> -Elite		

Flow Levels:

Based upon all of your boating trips at various flow levels, please answer the following:

What is the optimal range that provides the best whitewater boating for this reach? 4000+ cfs

What do you feel the highest safe flow is for your craft and skill level? 5,000 cfs

For you, what is the optimum flow for this run? 1000-2000 cfs

What is the best or optimal flow for a "standard" trip? 700-1500 cfs

What is the best or optimal flow for a "high challenge" trip? 2,000 cfs

If one flow for boating was released, what flow would you prefer? 1,500 cfs

Run Specifics:

Please respond to each of the following statements about the characteristics at this flow level (please circle one opinion).

Statement	Strongly Disagree	Disagree	No Opinion	Agree	Strongly Agree
This run is a good length.	1	2	3	4	5
The portages (if any) on this run are not a problem.	1	2	3	4	5

Use of the Run:

Are you likely to return for future boating if the optimum flow would be provided? (check one)

- Definitely No -Possibly -Probably -Definitely Yes

What months would you return to boat? (check one)

- Apr -May -Jun -Jul -Aug -Sep -Oct -Nov

How would you like to receive flow information? (check one)

- Telephone Number with Recording -Website Information -Email Notification

Do you believe any of the flows provided today would be suitable for beginning boaters? (check one)

- Definitely No -Possibly -Probably -Definitely Yes

If so, Which flow Level(s)? 500 - 800

Do you believe any of the flows provided today would be suitable for play boating? (check one)

- Definitely No -Possibly -Probably -Definitely Yes

If so, Which flow Level(s)? 950

Is there another whitewater boating opportunity in the area that is preferable to the two test flows today? NO (yes or no).

What is the name of the preferable whitewater boating opportunity? _____

What is the class of the preferable whitewater boating opportunity? _____

Is the preferable whitewater boating opportunity more challenging than the two test flows today? _____ (yes or no)

Does the preferable whitewater boating opportunity have more potential for boatability than the two test flows today? _____ (yes or no)

Hypothetical Flow Releases

For the following questions, please provide an overall evaluation for the range of water levels available on the river. In making your evaluations, consider all the flow dependent characteristics that contribute to a high quality trip (boatability, WW challenge, WW play, safety, aesthetics, and length of run). If you do not feel comfortable evaluating a flow you have not seen, leave that row blank.

Based on your preferences today, the following flow releases would create a desirable boating experience on this reach (check yes or no):

Flow Release (cfs)	Yes	No
600		✓
700		✓
800	✓	
900	✓	
1000	✓	
1,100	✓	
1,200	✓	

Thank You for your Time and Consideration

APPENDIX E-51 Saxon Falls Project Land and Inundated Area Maps

Current Project Boundary (240.9 acres)

Project Lands - 166.1 acres

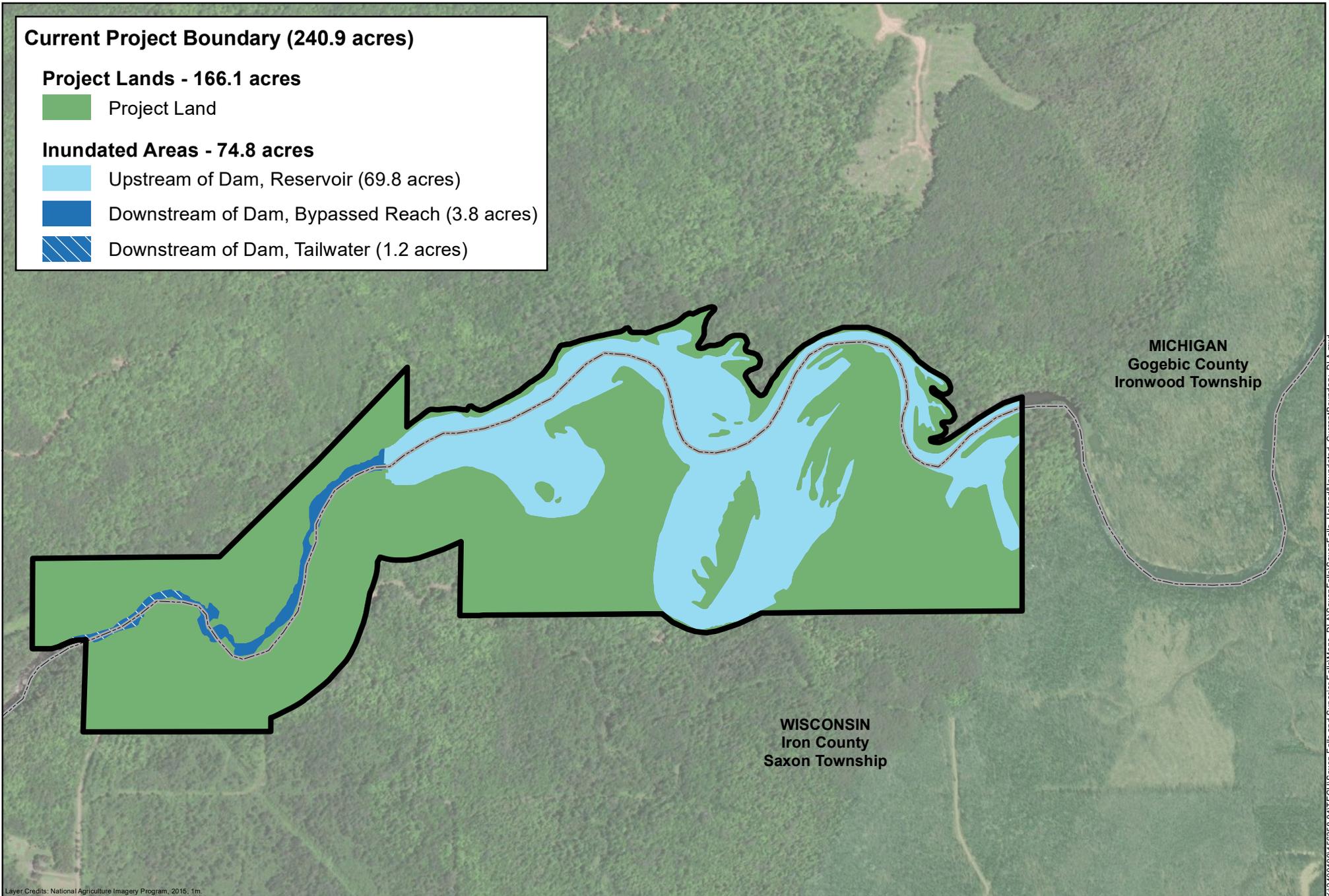
Project Land

Inundated Areas - 74.8 acres

Upstream of Dam, Reservoir (69.8 acres)

Downstream of Dam, Bypassed Reach (3.8 acres)

Downstream of Dam, Tailwater (1.2 acres)

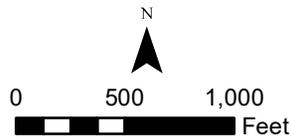


Layer Credits: National Agriculture Imagery Program, 2015, 1m.

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Current Project Boundary
State Boundary



**Saxon Falls Hydroelectric Project
Current Project Lands and Inundated Areas**

FERC No. 2610

Proposed Project Boundary (145.8 acres)

Project Lands - 73.5 acres

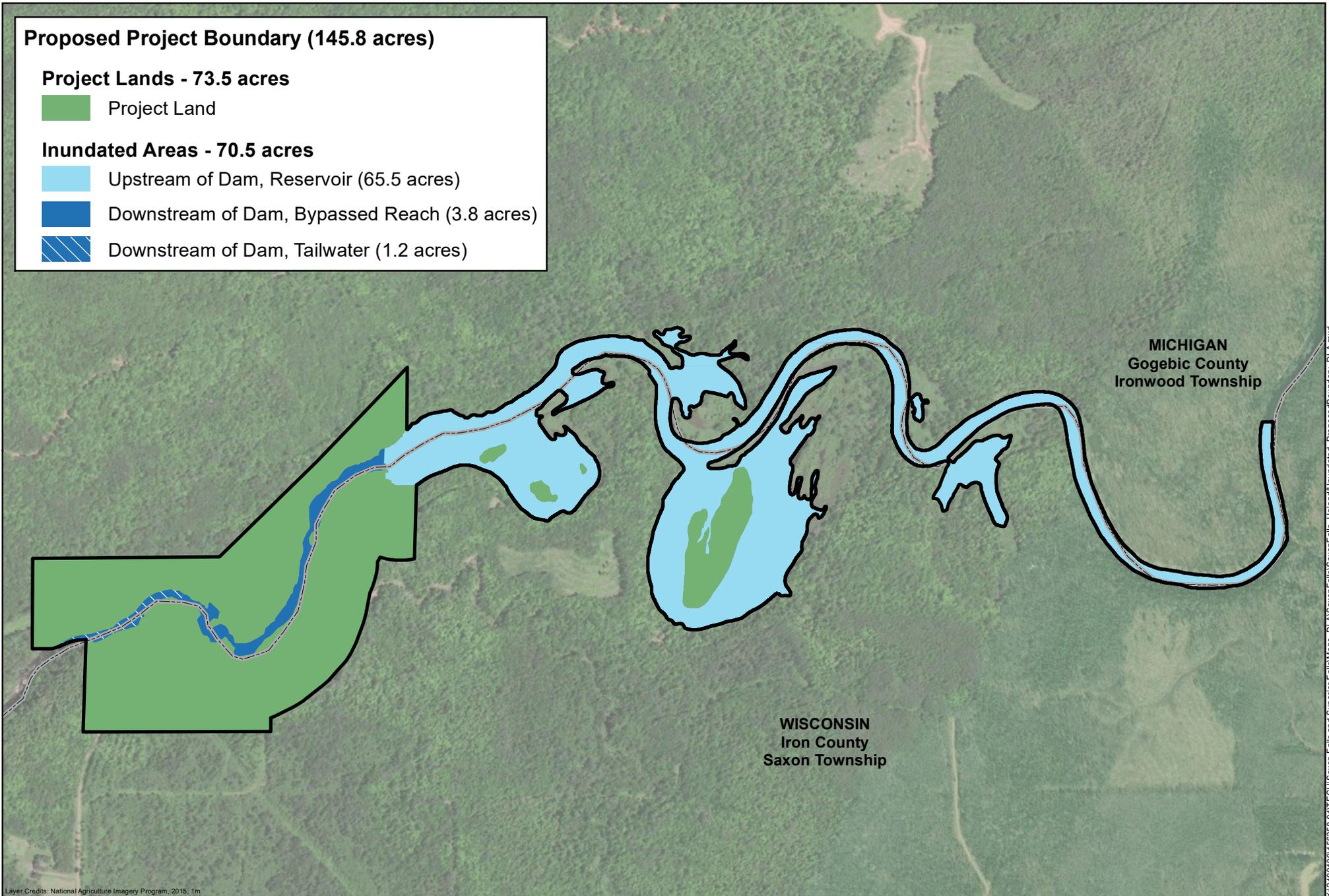
 Project Land

Inundated Areas - 70.5 acres

 Upstream of Dam, Reservoir (65.5 acres)

 Downstream of Dam, Bypassed Reach (3.8 acres)

 Downstream of Dam, Tailwater (1.2 acres)

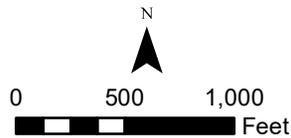


Layer Credits: National Agriculture Imagery Program, 2015, 1m.

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 Proposed Project Boundary
 State Boundary



**Saxon Falls Hydroelectric Project
Proposed Project Lands and Inundated Areas**

FERC No. 2610

APPENDIX E-52 Superior Falls Project Land and Inundated Area Maps

Current Project Boundary (390.2 acres)

Project Lands - 360.4 acres

Project Land

Inundated Areas - 29.8 acres

Upstream of Dam, Montreal River (10.5 acres)

Upstream of Dam, Reservoir (16.3 acres)

Downstream of Dam, Bypassed Reach (2.7 acres)

Downstream of Dam, Tailwater (0.3 acres)

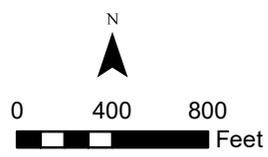
WISCONSIN
Iron County
Saxon Township

MICHIGAN
Gogebic County
Ironwood Township

Layer Credits: ESRI, National Agriculture Imagery Program, 2015, 1m.



Current Project Boundary
State Boundary



**Superior Falls Hydroelectric Project
Current Project Lands and Inundated Areas**

FERC No. 2587

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Proposed Project Boundary (46.1 acres)

Project Lands - 26.8 acres

Project Land

Inundated Areas - 19.3 acres

Upstream of Dam, Reservoir (16.3 acres)

Downstream of Dam, Bypassed Reach (2.7 acres)

Downstream of Dam, Tailwater (0.3 acres)

WISCONSIN
Iron County
Saxon Township

MICHIGAN
Gogebic County
Ironwood Township

Layer Credits: ESRI, National Agriculture Imagery Program, 2015, 1m.



Proposed Project Boundary
State Boundary



0 250 500
Feet

**Superior Falls Hydroelectric Project
Proposed Project Lands and Inundated Areas**

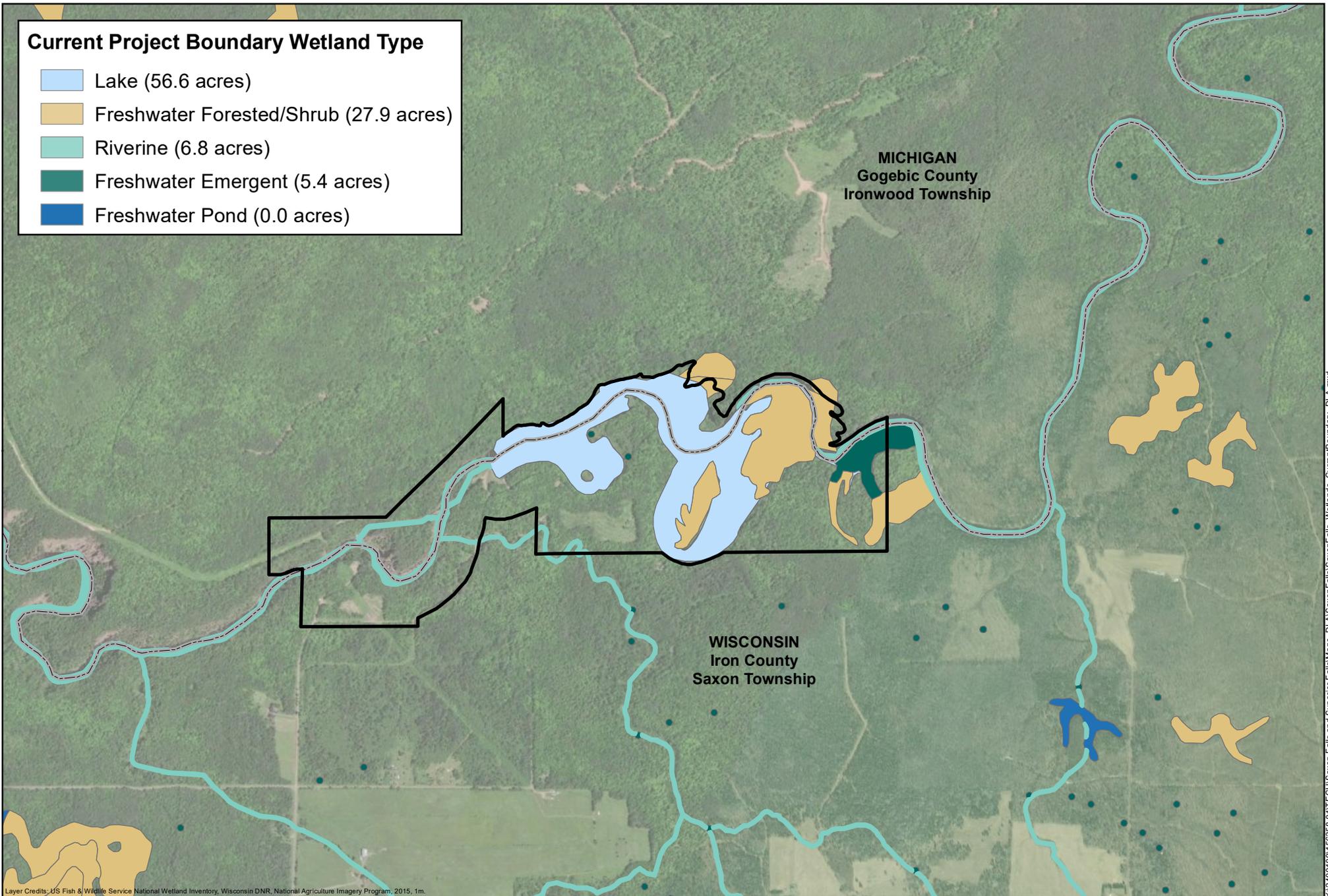
FERC No. 2587

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APPENDIX E-53 Wetlands Within the Saxon Falls Proposed and Current Project Boundary

Current Project Boundary Wetland Type

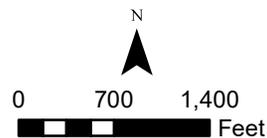
-  Lake (56.6 acres)
-  Freshwater Forested/Shrub (27.9 acres)
-  Riverine (6.8 acres)
-  Freshwater Emergent (5.4 acres)
-  Freshwater Pond (0.0 acres)



Layer Credits: US Fish & Wildlife Service National Wetland Inventory, Wisconsin DNR, National Agriculture Imagery Program, 2015, 1m.



-  Current Project Boundary
-  State Boundary



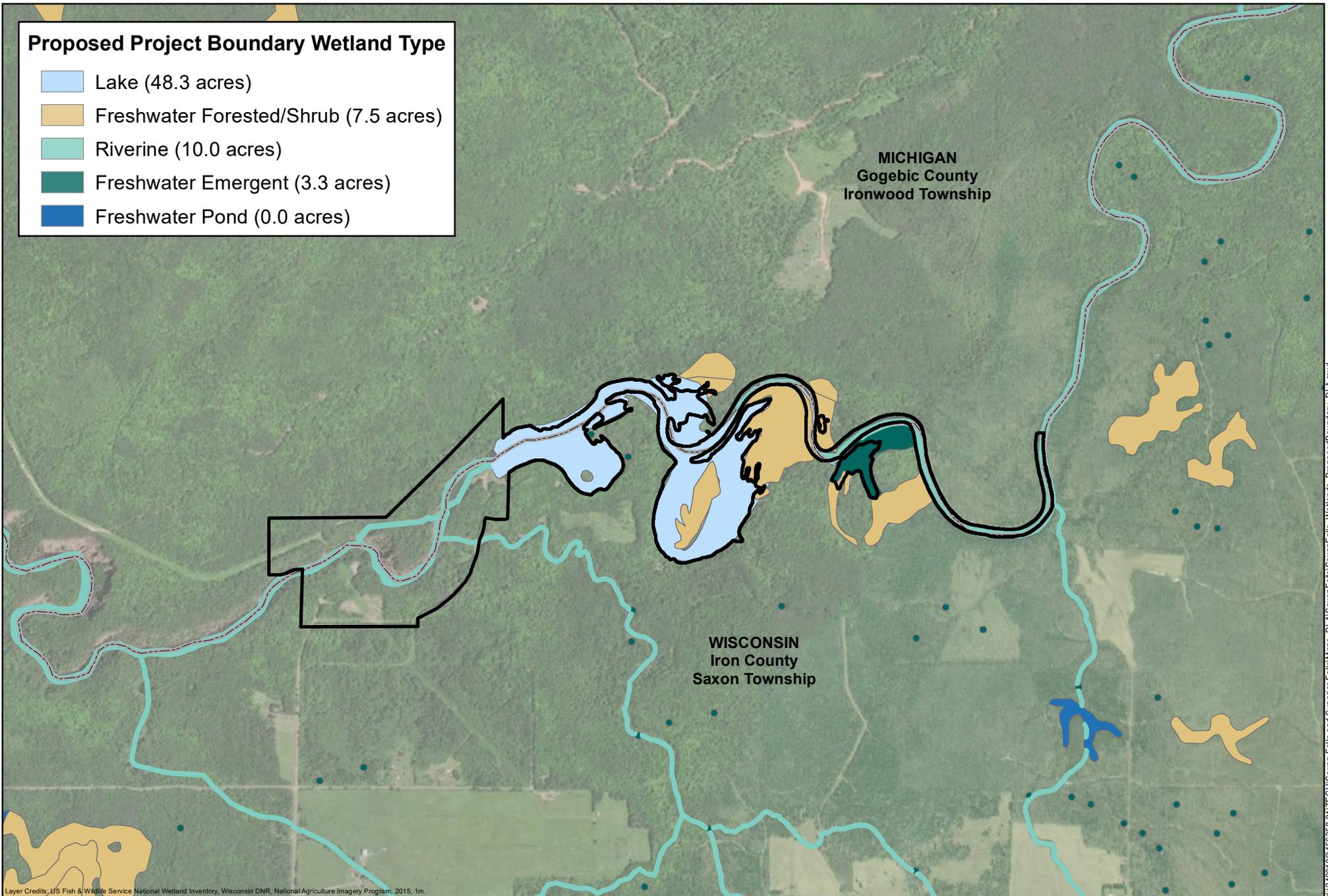
Saxon Falls Hydroelectric Project Project Vicinity Wetlands

FERC No. 2610

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Proposed Project Boundary Wetland Type

-  Lake (48.3 acres)
-  Freshwater Forested/Shrub (7.5 acres)
-  Riverine (10.0 acres)
-  Freshwater Emergent (3.3 acres)
-  Freshwater Pond (0.0 acres)

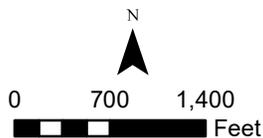


Layer Credits: US Fish & Wildlife Service National Wetland Inventory, Wisconsin DNR, National Agriculture Imagery Program, 2015, 1m.

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-  Proposed Project Boundary
-  State Boundary



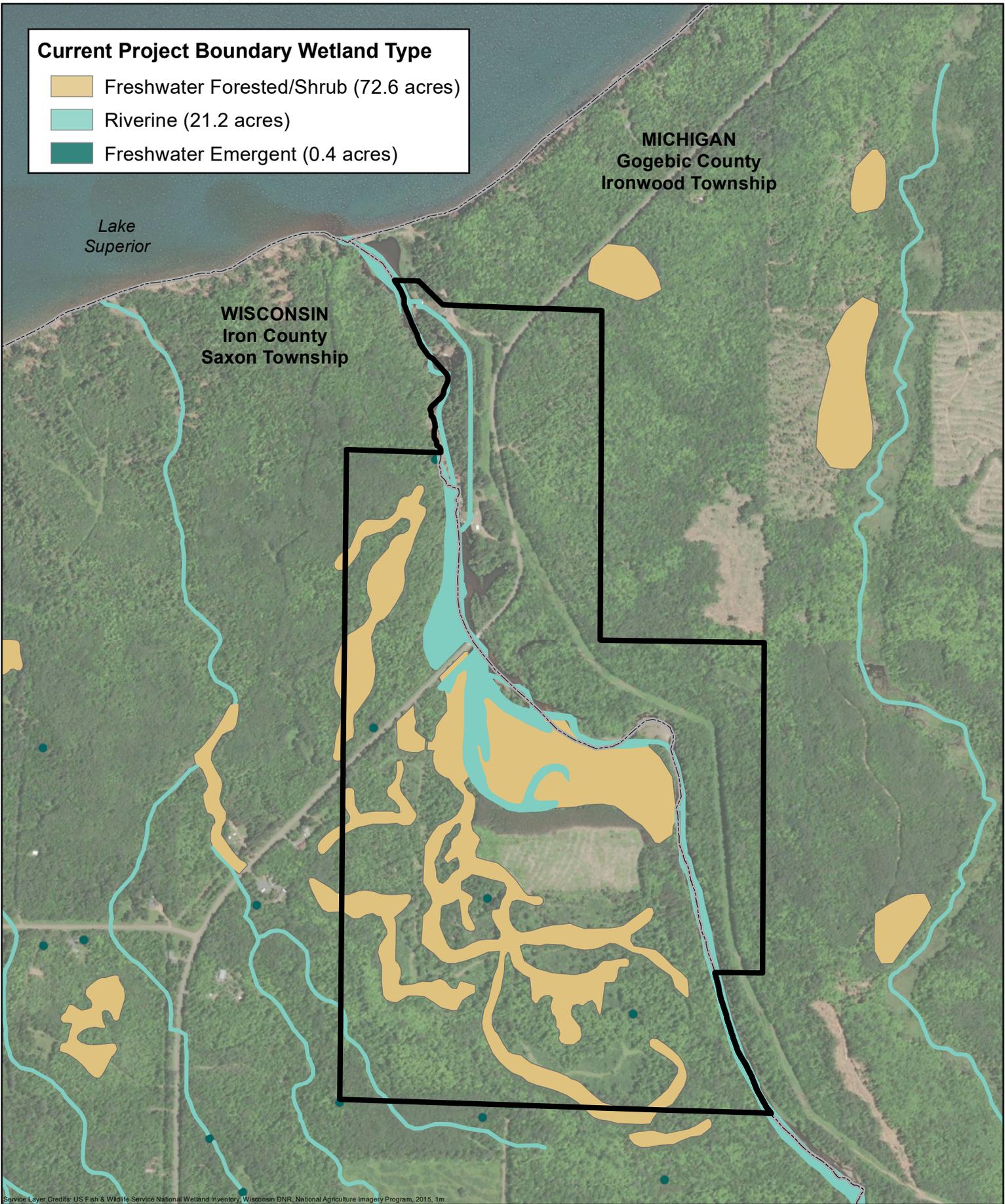
Saxon Falls Hydroelectric Project Project Vicinity Wetlands

FERC No. 2610

APPENDIX E-54 Wetlands Within the Superior Falls Proposed and Current Project Boundary

Current Project Boundary Wetland Type

-  Freshwater Forested/Shrub (72.6 acres)
-  Riverine (21.2 acres)
-  Freshwater Emergent (0.4 acres)

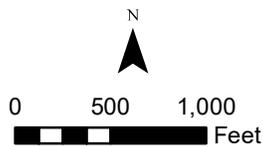


Service Layer Credits: US Fish & Wildlife Service National Wetland Inventory, Wisconsin DNR, National Agriculture Imagery Program, 2015, 1m.

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-  Current Project Boundary
-  State Boundary

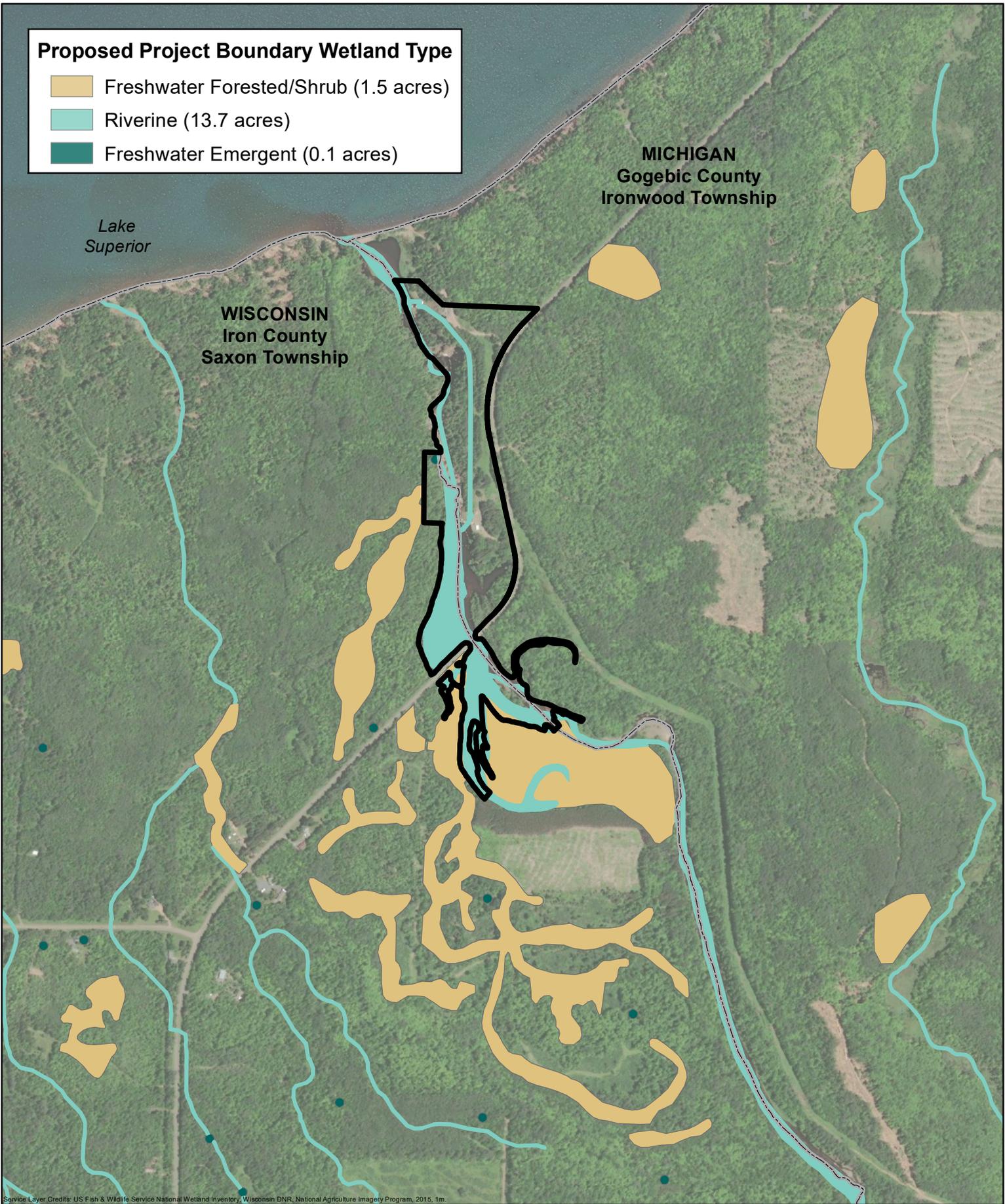


**Superior Falls Hydroelectric Project
Project Vicinity Wetlands**

FERC No. 2587

Proposed Project Boundary Wetland Type

-  Freshwater Forested/Shrub (1.5 acres)
-  Riverine (13.7 acres)
-  Freshwater Emergent (0.1 acres)

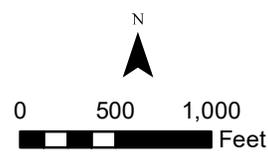


Service Layer Credits: US Fish & Wildlife Service National Wetland Inventory, Wisconsin DNR, National Agriculture Imagery Program, 2015, 1m.

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-  Proposed Project Boundary
-  State Boundary



**Superior Falls Hydroelectric Project
Project Vicinity Wetlands**

FERC No. 2587

APPENDIX E-55

**WDNR's Forest Management Guidelines-Chapter 4
Visual Quality**

CHAPTER 4
Visual Quality

CHAPTER 4 VISUAL QUALITY

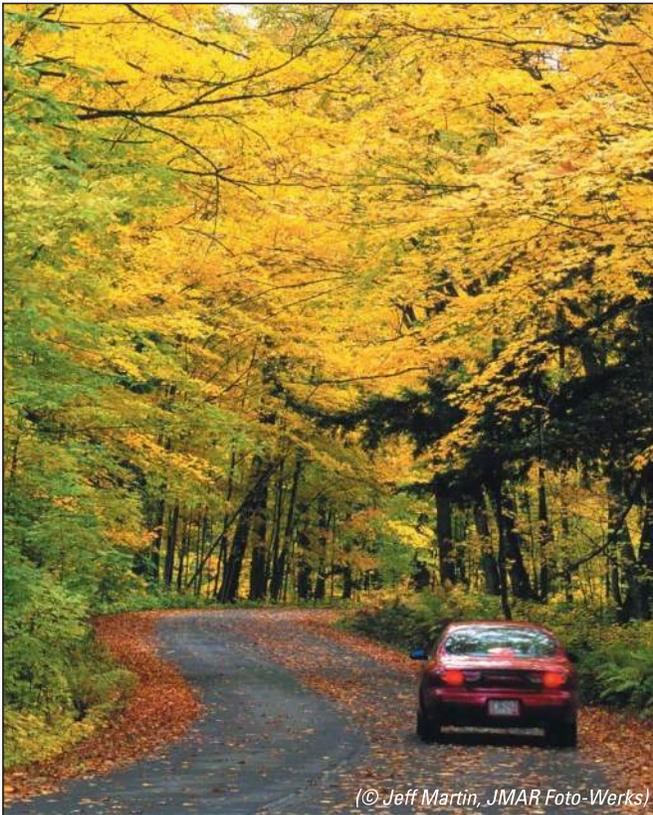
THE VALUE OF VISUAL QUALITY	4-2
A Concern for Aesthetic Quality.....	4-2
Benefits of Visual Quality Management.....	4-3
VISUAL SENSITIVITY LEVELS	4-7
Recognizing Different Levels of Visual Sensitivity	4-7
Visual Sensitivity Levels.....	4-7
The Value of Recognizing Different Levels of Visual Sensitivity.....	4-8
RESOURCE FOR ADDITIONAL INFORMATION	4-9

THE VALUE OF VISUAL QUALITY

A Concern for Aesthetic Quality

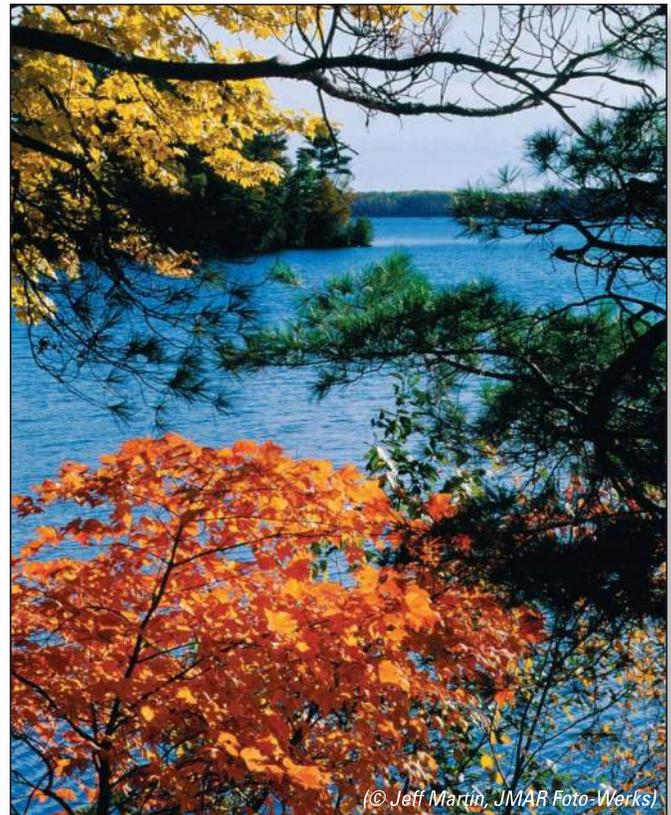
Concern about the aesthetic quality of forested lands throughout the state is a great source of pride for Wisconsin citizens. Scenic beauty – or “visual quality” – is one of the primary reasons people choose to spend their recreation and vacation time in or near forested areas. They are also attracted by the peace and quiet of the outdoors – the serenity, the solitude, and a host of other emotional, spiritual and sensory responses that make up the richly aesthetic and deeply personal experience that is so closely tied to time spent in or near our forests.

Wisconsin forests are particularly vital to the health of two industries: tourism and forest products. Many of the demands on the forests from these two industries are compatible and even complementary. See Chapter 13: Timber Harvesting for specific techniques to balance timber harvesting and visual quality.



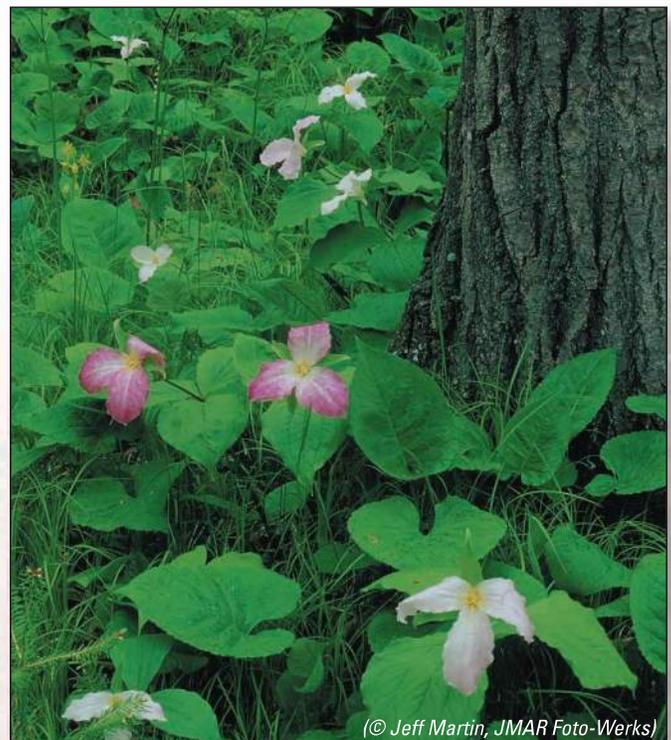
(© Jeff Martin, JMAR Foto-Werks)

Figure 4-1: The “most sensitive” level applies to those travel routes where significant public use occurs, and where the visual quality is of high concern to all typical users.



(© Jeff Martin, JMAR Foto-Werks)

Figure 4-2: Scenic quality is one of the primary reasons people choose to spend their recreation time in or near forested areas.



(© Jeff Martin, JMAR Foto-Werks)

Figure 4-3: Trilliums in Oneida County.

Benefits of Visual Quality Management

Visual quality is one important aspect of the broad, multi-faceted concept of integrated forest resource management. Visual quality management can:

- Enhance the visual quality of forested lands for recreational users which results in a healthy tourism economy.
- Enhance public acceptance of forest management and timber harvesting, therefore, helping to sustain a healthy forest products industry.
- Minimize the visual and audible impacts of forest management activities on tourists and other recreational users.
- Minimize the visibility of harvest areas by limiting apparent size of harvest.
- Minimize the visual impact of slash.
- Minimize the impact of landing operations on recreational viewers and users.



Figure 4-4: Careful planning and control of the logging operation can have a major impact on the visual quality following a timber harvest.



Figure 4-5: Slash from pine harvests is much smaller in size than hardwood tops and limbs. Slash from mechanical harvesting, commonly used in pine, aspen and birch, is usually compacted by the processing machine.



(WDNR, Elizabeth Czarapata)

Figure 4-6: This “hedge” of common buckthorn creates a solid wall of vegetation completely disrupting any view of the forest. Consider nonnative invasive plants during management activities as they can greatly decrease visual quality of forests.

- Minimize the visual contrast created by broken or leaning trees or extensive areas of dead trees.
- Reduce the visual impacts associated with the design and use of forest access roads.
- Reduce the visual impact of site preparation practices, and reduce the time that the effects of these practices are visible.
- Promote more natural-appearing stands.
- Enhance the aesthetics of visual management areas by minimizing visual impacts of timber stand improvement activities.
- Reduce the visual impacts of treated vegetation.
- Reduce noise and unsightliness related to gravel pits.



Figure 4-7: Untreated logging slash, such as these walnut tops, takes longer to decay and is often objectionable to landowners. Lopping of tops or harvesting firewood may provide a solution.

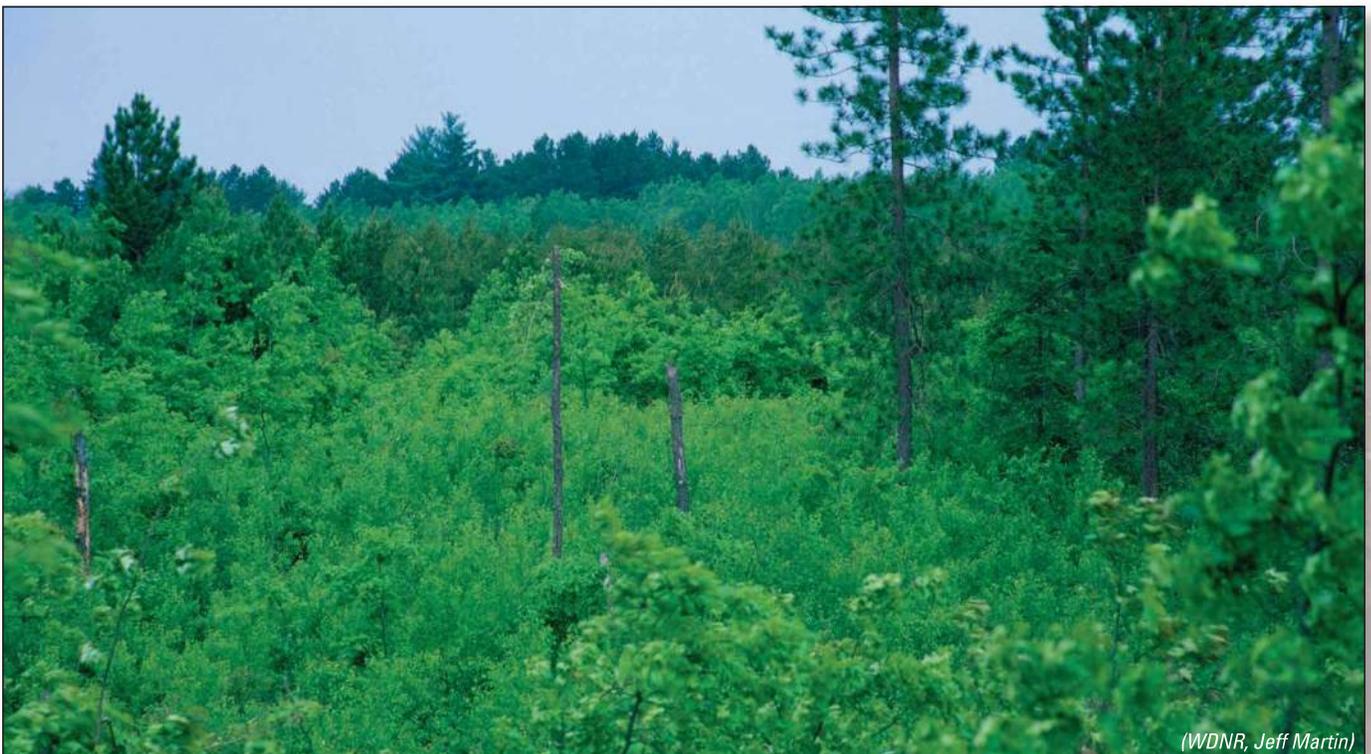


Figure 4-8: Large, unbroken clearcuts along well-traveled roads are often viewed by the public as unsightly, at least until the new regeneration becomes established on the site.



(WDNR, Jeff Martin)

Figure 4-9: This aerial view shows a mosaic of pine and aspen stands with scalloped boundaries in a portion of the Northern Highland State Forest that is managed to enhance aesthetic quality.



(WDNR, Jeff Martin)

Figure 4-10: This ground-level photo was taken in the center of the aerial view shown in Figure 4-9 while looking toward the lower left. This area, managed for aesthetic quality, shows oak sprouts and young aspen in the foreground, young jack pine and older aspen in the middle, and mature red and jack pine in the background.

VISUAL SENSITIVITY LEVELS

Recognizing Different Levels of Visual Sensitivity

Some of the factors important in the determination of visual sensitivity include:

- The perceived degree of sensitivity of users of that travel route or recreation area concerning landscape aesthetics.
- The volume and type of use the travel route or recreation area receives.
- The speed of travel within the route or area.



(WDNR, Jeff Martin)

Figure 4-11: This major highway, a “most sensitive” example, carries a high traffic load through scenic hill country in Wisconsin.



(WDNR, Jeff Martin)

Figure 4-12: An example of a “moderately sensitive” area, this narrow blacktop road winds alongside scenic Otter Creek in the Baraboo Hills.

Visual Sensitivity Levels

MOST SENSITIVE

Applies to travel routes and areas where significant public use occurs, and where visual quality is of high concern to typical users. Examples of such routes may include public highways, local roads, recreational lakes and rivers, and designated recreational trails and areas that provide a high level of scenic quality.

MODERATELY SENSITIVE

Applies to travel routes or recreation areas, not identified as “most sensitive,” where visual quality is of moderate concern to typical users. Examples of these routes and areas may include public highways and local roads, recreational lakes and rivers, and designated recreational trails that provide moderate to high scenic quality but less significant public use.

LESS SENSITIVE

Applies to travel routes or recreation areas, not identified as “most sensitive” or “moderately sensitive,” where visual quality is of less concern to typical users. Examples of these routes may include public highways and low-volume local forest roads, non-designated trails, and non-recreational lakes and rivers.



(WDNR, Jeff Martin)

Figure 4-13: Example of a “less sensitive” area along this back road that receives very little traffic.

The Value of Recognizing Different Levels of Visual Sensitivity

Recognizing the level of visual sensitivity helps the landowner, resource manager and logger to choose the visual quality guidelines that help fulfill the landowner's expectations.

Timber sale contracts should reflect differences in visual sensitivity. An area classified as "most sensitive" would normally have different contract specifications than those used in an area classified as "less sensitive." Landings, for example, should be avoided within view of travel routes or recreation areas classified as "most sensitive," while they might be visible in areas classified as "less sensitive," but located outside the travel route right-of-way.



(WDNR, Jeff Martin)

Figure 4-14: The selective thinning in this red pine stand was designed to mimic natural changes that occur over time. Trees were removed from all size classes, so that the remaining stand has a mix of sizes, quality and tree spacing; therefore, providing a more "natural" and less "plantation" look.

RESOURCE FOR ADDITIONAL INFORMATION

This resource is specific to the information in this chapter only. Refer to the Resource Directory for additional resources related to this chapter.



Figure 4-15: Autumn scenery in the Baraboo Hills showcases the diversity found in a mixed pine and hardwood forested landscape.

WOODLAND VISIONS – APPRECIATING AND MANAGING FORESTS FOR SCENIC BEAUTY

Woodland Visions – Appreciating and Managing Forests for Scenic Beauty, L. Klessig, UW-Extension Publ. No. G3762, 2002. Woodland owners prize their property for its wildlife habitat and natural beauty as much as for its timber value. This softcover book considers this

important – and often overlooked – perspective in woodland management planning. According to the author, Lowell Klessig, “Good forest management can enhance scenic benefits not only for woodland owners, but also for the surrounding community.” This publication is available in hardcopy or electronic form online at: woodlandinfo.org/publications/forest-management#roads.



WISCONSIN DEPARTMENT OF NATURAL RESOURCES NOTICE OF FINAL GUIDANCE & CERTIFICATION

Pursuant to ch. 227, Wis. Stats., the Wisconsin Department of Natural Resources has finalized and hereby certifies the following guidance document.

DOCUMENT ID

FA-20-0005

DOCUMENT TITLE

Wisconsin Forest Management Guidelines

PROGRAM/BUREAU

Forest Economics and Ecology, Applied Forestry Bureau

STATUTORY AUTHORITY OR LEGAL CITATION

S. 823.075, Wis. Stats. & NR 1.25, Wis. Admin. Code

DATE SENT TO LEGISLATIVE REFERENCE BUREAU (FOR PUBLIC COMMENTS)

2/10/2020

DATE FINALIZED

4/6/2020

DNR CERTIFICATION

I have reviewed this guidance document or proposed guidance document and I certify that it complies with sections 227.10 and 227.11 of the Wisconsin Statutes. I further certify that the guidance document or proposed guidance document contains no standard, requirement, or threshold that is not explicitly required or explicitly permitted by a statute or a rule that has been lawfully promulgated. I further certify that the guidance document or proposed guidance document contains no standard, requirement, or threshold that is more restrictive than a standard, requirement, or threshold contained in the Wisconsin Statutes.

A handwritten signature in blue ink that reads "Cameron Hardin".

March 27, 2020

Signature

Date

APPENDIX E-56

**WDNR's Forest Management Guidelines-Chapter 5
Riparian Areas and Wetlands**

5

CHAPTER 5 **Riparian Areas** **and Wetlands**

CHAPTER 5 RIPARIAN AREAS AND WETLANDS

THE VALUE OF RIPARIAN AREAS.....	5-2
A Transition from Aquatic to Terrestrial Ecosystems	5-2
Protecting Water Quality	5-3
Forestry BMPs for Water Quality	5-5
RIPARIAN MANAGEMENT ZONES	5-7
What Exactly is a Riparian Management Zone?	5-7
Regulations	5-7
BMPs FOR RIPARIAN MANAGEMENT ZONES	5-8
BMPs Common to All Three RMZ Categories	5-9
BMPs: Lakes, Designated Trout Streams and Streams 3 Feet Wide and Wider	5-9
BMPs: Streams Less Than 3 Feet Wide.....	5-10
BMP: Streams Less Than 1 Foot Wide.....	5-10
WETLANDS	5-11
Wetland Identification.....	5-12
BMPs: General Wetlands.....	5-13
Regulations	5-13
BMPs: Wetland Filter Strip.....	5-14
RESOURCES FOR ADDITIONAL INFORMATION	5-15

THE VALUE OF RIPARIAN AREAS

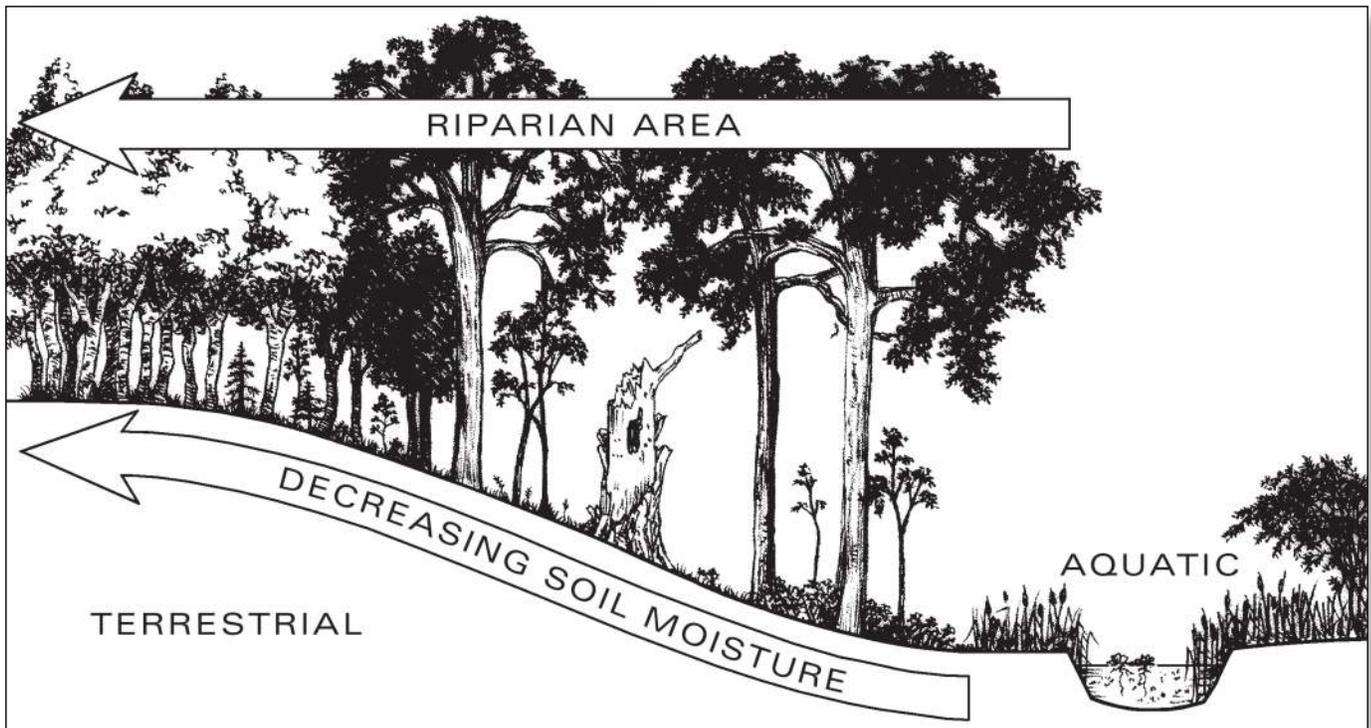


Figure 5-1: Transition from aquatic to terrestrial habitat in a riparian area. (Adapted from Figure RMZ-1, pg. 4, *Riparian Areas, Voluntary Site-level Forest Management Guidelines: Sustaining Minnesota Forest Resources*)

A Transition from Aquatic to Terrestrial Ecosystems

A riparian area is the area of land and water forming a transition from aquatic to terrestrial ecosystems along streams and lakes (see Figure 5-1).

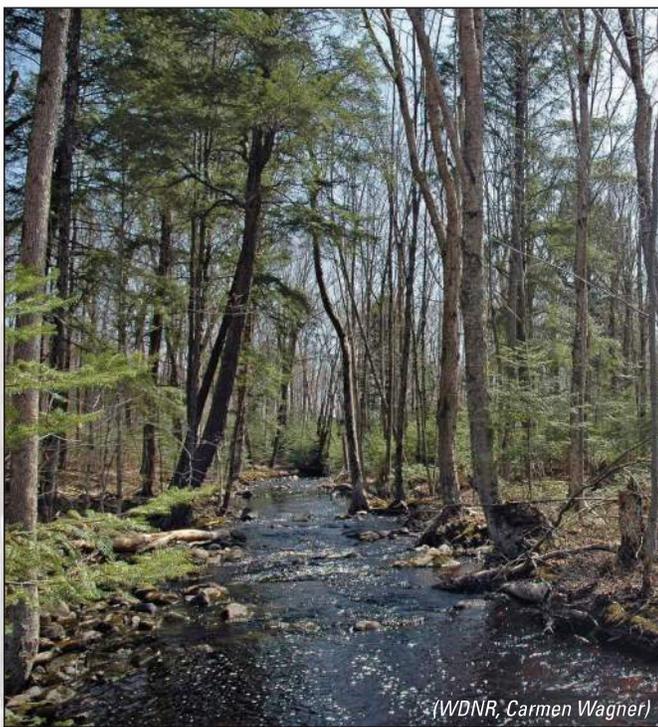
Riparian areas are among the most important and diverse parts of forest ecosystems. They support high soil moisture and a diversity of associated vegetation and wildlife, and they perform important ecological functions that link aquatic and terrestrial ecosystems. Riparian areas help to:

- Filter sediment and nutrients from runoff.** As runoff flows over the soil and duff layer (needles, leaves and decaying matter), it can slow and drop sediment that it is carrying. This settling process keeps sediment and nutrients out of lakes, streams and wetlands.
- Allow water to soak into the ground.** The leaves, twigs and stems of vegetation in riparian areas slow surface runoff, allowing water to soak into the ground. This helps to reduce peak flow levels in streams. It also replenishes groundwater, helping to maintain lake levels and stream flows.
- Stabilize lakeshores and streambanks.** The roots of trees and plants along lakes and streams can reduce soil erosion by holding soil in place, making it more difficult for waves, currents and runoff to wash the soil away. Plants or even dead and down vegetation can also reduce the impact of raindrops on bare soil, decreasing erosion.
- Shade streams.** Streamside trees offer shade, keeping the water from becoming too warm for aquatic life in the summer. As water temperatures rise, the dissolved oxygen levels decrease. Maintaining water temperatures are especially important in cold water trout streams and their associated communities.
- Provide food and habitat for aquatic organisms.** Fallen leaves and twigs are the base of the food chain for aquatic organisms in small forest streams. Large woody debris, including logs and branches, provide critical habitat for fish and aquatic organisms.

Protecting Water Quality

Forests play an important role in the water cycle, contributing to the high quality of water found in Wisconsin's lakes, streams and wetlands. The term "water quality" broadly encompasses the chemical, physical and biological aspects of lakes, streams and wetlands. Chemical properties of water include pH, dissolved oxygen, nutrients and the presence of chemical pollutants. Physical properties include turbidity and temperature. The characteristics and natural processes of waterbodies are also important aspects of water quality. These include stable channels, transport of nutrients, volume and speed of water, streambed and lakebed materials, and leaves, sticks, and logs that naturally fall into the water.

Forestry Best Management Practices for Water Quality (WQ-BMPs) are intended to provide simple and cost-effective methods for protecting water quality in lakes, streams and wetlands – including important ecological and waterbody characteristics – before, during and after forestry management activities.



(WDNR, Carmen Wagner)

Figure 5-2: Riparian management zones (RMZs) provide a natural source of wood, leaves and other organic material which are important components of aquatic ecosystems.

WQ-BMPs help to protect:

- **General water quality**, by minimizing inputs of polluted runoff
- **Water temperature**, by ensuring an adequate and appropriate amount of shade along shorelines and streambanks
- **Nutrient balance**, by providing necessary inputs of organic material and nutrients that serve as the basis of aquatic food chains
- **Habitat diversity**, by making certain there is an adequate source of large woody debris for the aquatic system
- **Hydrologic process**, by limiting disturbances to water flow patterns
- **Soil quality**, by limiting disturbances and compaction



(WDNR, Shelley Wrzochalski)

Figure 5-3: Temporary stream crossings can provide access to areas not needing permanent access, while allowing the timber harvest, and greatly reducing the potential impacts of the stream crossing.



(WDNR, Carmen Wagner)

Figure 5-4: Excessive rutting not only impacts soil and water quality, it can also damage trees and reduce regeneration.

Maintaining water quality can be a complex process, but WQ-BMPs provide easy, practical ways to achieve this goal. Most of these BMPs address water quality concerns by providing methods to keep sediment out of lakes, streams and wetlands and by preserving the physical integrity and natural processes of water resources. If these issues are addressed, then most other aspects of water quality will also be protected.

If WQ-BMPs are not followed, water quality has the potential to be impacted in a number of ways including:

- **Reducing the soil's ability to absorb water.** This can occur when the forest floor is rutted, compacted or otherwise damaged by equipment.
- **Increasing the potential for soil erosion.** The likelihood of soil being carried away by runoff increases when soil is moved or when bare soil is exposed.
- **Concentrating water flows.** Roads, skid trails, landings, and drainage structures can collect runoff and funnel it, eroding soil and creating gullies.



(WDNR, Kristin Lambert)

Figure 5-5: Riparian management zones along streams help moderate stream temperatures by retaining trees to shade streams.

- **Diverting water flows.** Roads and skid trails can intercept water flowing over or through the soil. If the natural flow pattern (hydrology) is altered, wetlands or other water resources may be denied the water that they depend on or may become impounded (flooded) with water as their natural drainageways are blocked by roads and skid trails.
- **Increasing water flows.** Harvesting a significant percentage of the trees in a watershed can increase the amount of water running off the land, since fewer trees are left to use the water. Higher water flows can increase the potential for streambank erosion and may lead to flooding.
- **Reducing the benefits of vegetation next to water resources.** Harvesting adjacent to streams can open the tree canopy and cause more light to reach the water surface. This may cause water temperatures to rise. Harvesting next to lakes and streams can also remove the natural source of woody debris for aquatic habitat, and can eliminate the leaf litter that is an important food source for many aquatic insects.



(WDNR, Carmen Wagner)

Figure 5-6: Monitoring teams visit timber sales to ensure that Forestry BMPs for Water Quality are being followed and that BMPs are working as intended.

Forestry BMPs for Water Quality

The most practical and cost-effective method to assure that forestry operations do not adversely affect water quality in Wisconsin is through the use of the voluntary **best management practices (BMPs)**. These BMPs are voluntary in the sense that they are not legally mandated. However, the Wisconsin DNR strongly encourages their use by all Wisconsin forest landowners, land managers and forestry professionals.

Many public and private landowners in Wisconsin use Forestry BMPs for Water Quality (WQ-BMPs) to guide their management activities. Those who have made commitments to follow these BMPs include:

- National forests
- State forests
- County forests
- The majority of Wisconsin's large land ownerships (formerly known as industrial forestlands) which are participating in forest certification programs.

In addition to WQ-BMPs, you should be aware of existing municipal, county, state, and federal regulations relating to forest management and water quality (see Appendices D and E for information on permits and regulations).

This guide can help you when making decisions about management activities on your land. **WQ-BMPs are identified by “♣” to help separate them from other recommendations in this guide. Applications of WQ-BMPs may be modified for specific site conditions with guidance from a natural resource professional, if modifications provide equal or greater water quality protection, or if the modification has no impact on water quality.** Seek professional advice on WQ-BMPs and all forest management activities from natural resource professionals such as:

- Consulting foresters
- Industrial foresters
- Wisconsin DNR foresters, fish managers and water quality staff
- USDA Natural Resources and Conservation Service staff
- County Land Conservation Department staff

Careful planning for forest management activities, such as road construction, timber harvesting and site preparation, will help protect water quality. A well thought-out plan will lead to harvest operations that use WQ-BMPs, remove forest products efficiently and profitably, and promote sustainable forest growth and water quality protection.

A comprehensive forest management plan should include WQ-BMPs. The level of formality and detail should be appropriate to the project size, cost and environmental risk. The plan should also be flexible and adaptable to changing conditions.

Wisconsin DNR foresters and consulting or industrial foresters can work with you to develop a list of WQ-BMPs to include in your forest management plan. Cost-sharing assistance may be available for plans written by a consulting forester.

Contractors (e.g., loggers or road developers) along with landowners, land managers and foresters are all responsible in planning, designing and implementing WQ-BMPs. They should select the best forest management strategy to protect water quality that is specific to their site and timber harvest.



Figure 5-7: Discuss any water quality concerns with your forester and logger before timber harvesting starts.



Figure 5-8: The location of roads, skid trails and landings should be determined before harvesting. This will ensure that adequate riparian management zones are maintained near streams and lakes, and that sensitive areas are avoided like springs, seeps and wetlands.

RIPARIAN MANAGEMENT ZONES

What Exactly is a Riparian Management Zone?

Riparian management zones (RMZs) are areas next to lakes and streams where management practices are modified to protect water quality, fish habitat and other aquatic resources. These areas are complex ecosystems that provide food, habitat and movement corridors for aquatic (water) and terrestrial (land) communities. In fact, 80 percent of the endangered and threatened species in Wisconsin spend all or part of their lives in these areas. Besides their wildlife habitat value, RMZs are vital in helping to minimize the effects of nonpoint source pollution on adjacent surface waters.



(WDNR, Carmen Wagner)



Figure 5-9: Ordinary high water mark for a stream.

Regulations

In addition to the recommended WQ-BMPs, all cutting practices next to navigable waterways must be consistent with local zoning ordinances. Chapter NR 115, Wisconsin Administrative Code, sets statewide minimum standards for the cutting of trees and shrubs in shoreland areas to protect the natural scenic beauty, control erosion and reduce the flow of sediments and nutrients from the shoreland area. Every county and many towns have a shoreland zoning ordinance which addresses vegetation management and other activities near lakes and streams. Before conducting any shoreland harvesting, contact local zoning offices for permit and regulation information.

Navigable stream and wetlands crossings, grading next to lakes and streams, and other forestry activities are subject to permits. Contact a local Wisconsin DNR water management specialist for more information at: dnr.wi.gov – keyword “waterway.”

DETERMINING NAVIGABILITY OF WATERWAYS AND WATERBODIES

LAKE/POND

A waterbody is navigable if it 1) has an ordinary high water mark, 2) has a bed and banks, and 3) is a “reasonably permanent” body of water, although it may dry up during periods of drought.

STREAM

A waterway is navigable if it 1) has a bed and banks, 2) can float the smallest recreational craft on a regular reoccurring basis.

ORDINARY HIGH WATER MARK (OHWM)

The point on a bank or shore up to which the presence and action of water is so continuous that it leaves a distinct mark either by erosion, destruction of terrestrial (land) vegetation, or other easily recognized characteristics.

BMPs FOR RIPARIAN MANAGEMENT ZONES

The recommended RMZ width is measured along the lay of the land (the linear distance along the ground). It is not a horizontal distance unless the ground is level. Using best professional judgment, the width of the RMZ and associated WQ-BMPs may be modified to ensure water protection or if water quality will not be impacted.

It is important to remember that water quality broadly encompasses chemical, physical and biological characteristics of lakes and streams – it is not just water clarity.

THE THREE RIPARIAN MANAGEMENT ZONE (RMZ) CATEGORIES

RMZ = 100 Feet: Lakes, designated trout streams and streams 3 feet wide and wider.

RMZ = 35 Feet: Streams less than 3 feet wide.

RMZ = 35 Feet: Streams less than 1 foot wide.

NOTE: The RMZ width is measured along the lay of the land (the linear distance along the ground). It is not a horizontal distance, unless the ground is level.

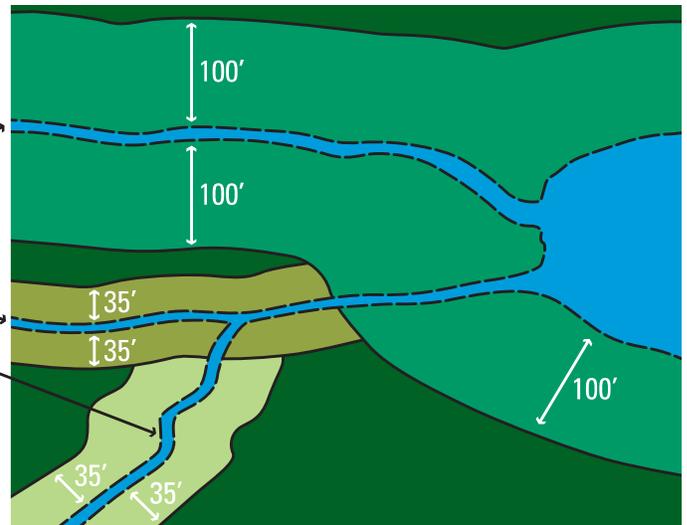
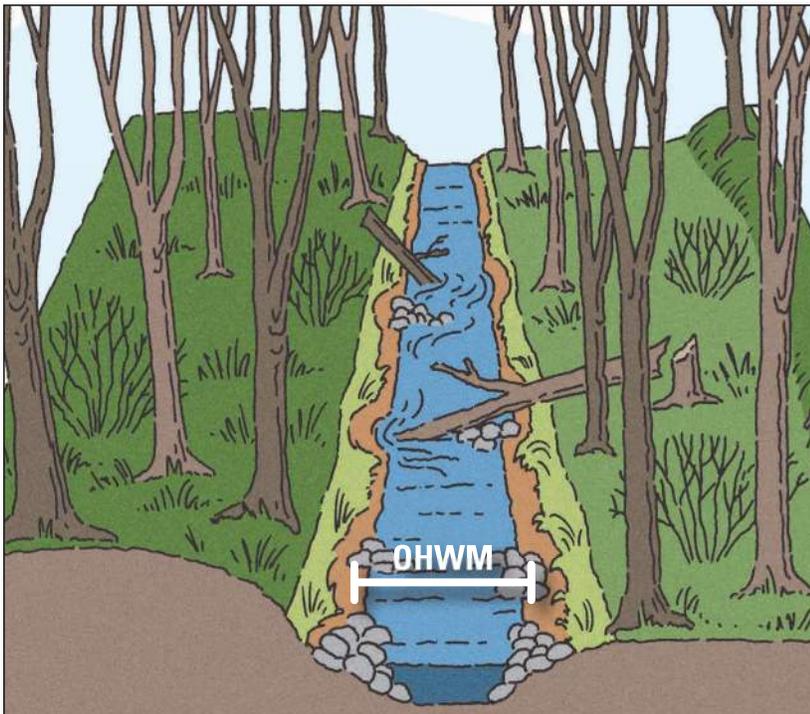


Figure 5-10: Three Riparian Management Zones (Wisconsin's Forestry Best Management Practices for Water Quality, PUB-FR-093 2010)



Stream width is measured at the ordinary high water mark (OHWM). The OHWM is the point on the stream bank where the presence and action of the water is so continuous as to leave a distinct mark either by erosion, destruction of terrestrial vegetation or other easily recognized characteristic.

The width of the stream should be measured at a straight channel segment within the management area. The ideal location to measure stream width would be an area that is representative of the stream throughout the management area. The width should not be measured at the stream's widest points such as in the bends of the stream channel.

Figure 5-11: How to Measure Stream Width (Wisconsin's Forestry Best Management Practices for Water Quality, PUB-FR-093 2010)

BMPs Common to All Three RMZ Categories

These BMPs are applicable to all riparian management zones (RMZ):

- ◆ Locate roads outside the RMZ unless necessary for stream crossings. For stream crossings, follow recommendations in the Stream Crossings section of Chapter 12: Forest Road Construction and Maintenance starting on page 12-6.
- ◆ Locate landings outside the RMZ.
- ◆ Do not dispose of or pile slash that originated from outside the RMZ to within it. However, slash from trees within the RMZ may remain there. Keep slash out of lakes, streams and areas where it may be swept into the water.
- ◆ Minimize soil exposure and compaction to protect ground vegetation and the duff layer.



(WDNR, Carmen Wagner)

Figure 5-12: The RMZ is a strip of land alongside streams and lakes extending landward from the ordinary high water mark. On this river, a RMZ that is 100 feet wide would be used.

BMPs: Lakes, Designated Trout Streams and Streams 3 Feet Wide and Wider

The riparian management zone (RMZ) for these waters is a strip of land running along the shoreline of lakes and on each side of streams. It begins at the ordinary high water mark and extends a minimum of 100 feet landward. The Wisconsin DNR maintains a county-by-county **listing of all designated trout streams available at: dnr.wi.gov – keywords “trout management.”**

- ◆ Do not operate wheeled or tracked equipment within 15 feet of the ordinary high water mark except on roads or at stream crossings.
- ◆ Operate wheeled or tracked equipment within 15 to 50 feet of the ordinary high water mark only when the ground is frozen or dry.
- ◆ Harvesting plans should leave at least 60 square feet of **basal area** per acre in trees five inches **DBH** (diameter at breast height) and larger, evenly distributed.
- ◆ Use selection harvests and promote long-lived tree species appropriate to the site. Long-lived hardwood species include sugar maple, red maple, basswood, cottonwood, white ash, black ash, elms, and oaks. Long-lived conifer species include white pine, red pine, eastern hemlock, and white cedar.
- ◆ Do not harvest fine woody material within 50 feet of the ordinary high water mark. NOTE: This BMP may be modified for specific site conditions, for specific operational issues, or to meet specific management objectives if water quality will not be impacted. Additional guidelines can be found in *Wisconsin’s Forestland Woody Biomass Harvesting Guidelines* available online at: <https://councilonforestry.wi.gov/Pages/WoodyBiomass/Overview.aspx>.
- ◆ Harvesting intervals should be a minimum of 10 years.
- ◆ Develop trees 12 inches DBH and larger.

BMPs: Streams Less Than 3 Feet Wide

The riparian management zone (RMZ) for these streams is a strip of land on each side of the stream, beginning at the ordinary high water mark and extending a minimum of 35 feet landward.

- ◆ Operate wheeled or tracked equipment within 15 feet of the ordinary high water mark of streams only when the ground is frozen or dry.
- ◆ Use selection harvests and promote long-lived tree species appropriate to the site. Long-lived hardwood species include sugar maple, red maple, basswood, cottonwood, white ash, black ash, elms, and oaks. Long-lived conifer species include eastern hemlock, white pine, red pine, and white cedar.
- ◆ Do not harvest fine woody material within 15 feet of the ordinary high water mark. NOTE: This BMP may be modified for specific site conditions, for specific operational issues, or to meet specific management objectives if water quality will not be impacted. Additional guidelines can be found in *Wisconsin's Forestland Woody Biomass Harvesting Guidelines* available online at: <https://councilonforestry.wi.gov/Pages/WoodyBiomass/Overview.aspx>.
- ◆ Harvesting intervals should be a minimum of 10 years.
- ◆ Harvesting plans should leave at least 60 square feet of **basal area** per acre in trees five inches **DBH** (diameter at breast height) and larger, evenly distributed.

BMPs: Streams Less Than 1 Foot Wide

The riparian management zone (RMZ) for these waters is a strip of land on each side of the stream, beginning at the ordinary high water mark and extending a minimum of 35 feet landward.

- ◆ Operate wheeled or tracked equipment within 15 feet of the ordinary high water mark only when the ground is frozen or dry.
- ◆ Do not harvest fine woody material within 15 feet of the ordinary high water mark. NOTE: This BMP may be modified for specific site conditions, for specific operational issues, or to meet specific management objectives if water quality will not be impacted. Additional guidelines can be found in *Wisconsin's Forestland Woody Biomass Harvesting Guidelines* available online at: <https://councilonforestry.wi.gov/Pages/WoodyBiomass/Overview.aspx>.

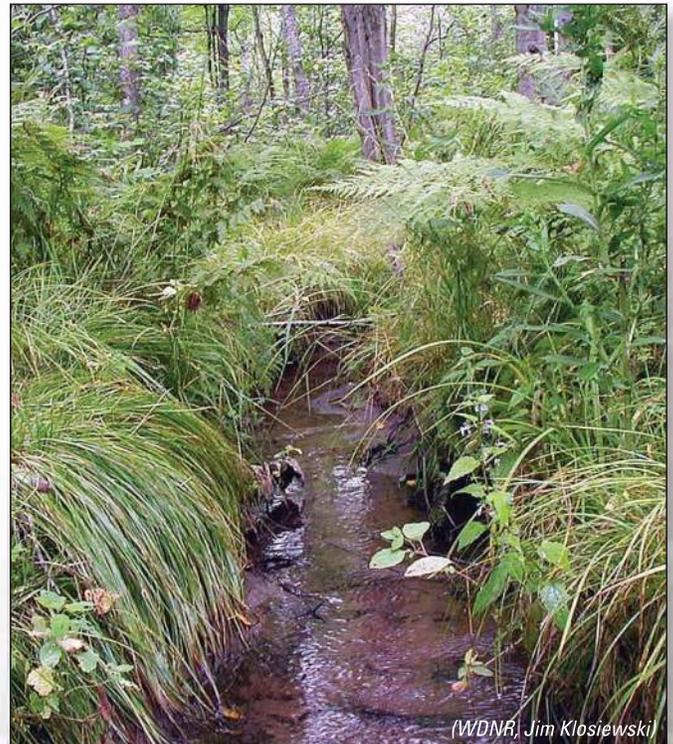


Figure 5-13: This stream measures 2.9 feet across and has a recommended RMZ width of 35 feet.

WETLANDS



(WDNR, Carmen Wagner)

Figure 5-14: Wetlands protect shorelines by absorbing waves and holding soil in place.

Wisconsin state statutes (section 23.32) define a wetland as “an area where water is at, near or above the land surface long enough to be capable of supporting aquatic or hydrophytic (water-loving) vegetation, and which has soils indicative of wet conditions.” Wetlands can be as small as a 500 square foot ephemeral pond, or as large as the 32,000 acre Horicon Marsh. Wetlands perform many functions, often providing valuable ecosystem services, including:

- **Fish and wildlife habitat.** Many animals, including nearly 40 percent of Wisconsin’s bird species, live in or use wetlands for food, nest sites and cover. One-third of the plants and animals on Wisconsin’s state endangered and threatened list depend on wetlands.
- **Flood protection.** By storing runoff from heavy rains and snowmelt, wetlands reduce flood peaks by as much as 60 percent. The Environmental Protection Agency estimates that an acre of wetlands can store one to 1.5 million gallons of floodwater.
- **Water quality protection.** Wetlands store and filter pollutants from surface waters. Some wetlands could remove as much pollution as a five million dollar water treatment plant.
- **Groundwater recharge and discharge.** Some wetlands use surface water to recharge groundwater supplies. Other wetlands discharge groundwater to the surface, an important wetland function that helps to stabilize stream flows, especially during dry months.
- **Shoreline protection.** Shoreland wetlands act as buffers between the land and water. They protect against erosion by absorbing the force of waves and currents. The roots of wetland plants further help by anchoring soil in place. Without this wetland buffer, the shoreline becomes undercut and collapses.

Wetlands can be difficult to work in because of the water and organic material in their soils. Wetland soils have low weight-bearing capacity, making them weaker than upland soils and more susceptible to rutting. In addition, it is common for water to be moving through the soil near the surface. The wetland WQ-BMPs are designed to prevent erosion, minimize changes to the surface and below-surface water movement, and to strengthen or increase the bearing capacity of the soil. Changes in a wetland, especially in water movement, can affect the health of the wetland ecosystem and the functions it performs.

Wetland Identification

Wetlands are areas where standing water or saturated soil conditions are present long enough to support water-loving plants like marsh marigolds, willows, tag alders, and other species. These wet conditions will also lead to development of specific soil types that can help identify wetlands. Wetland soils develop after repeated cycles of saturation which last 14 days or more. These saturated conditions may only exist every other year (50 percent of the time). When there is standing water or the soil is saturated, anaerobic conditions exist and the soil pores are filled with water instead of air.

Wetlands are common along the edges of lakes and streams, but can also be found in flat areas or depressions which collect water. Wetlands are also found in unlikely places, such as on hillsides, where water may seep out of the ground.

More than 30 different types of wetlands are recognized in Wisconsin. Wetland types that are common in forested areas include ephemeral ponds, floodplain forests, northern hardwood swamps, northern wet-mesic forests, and tamarack/spruce swamps.

There are a number of tools that can help you make a preliminary determination as to whether your project will affect wetlands including:

- Wisconsin DNR Wetland Inventory maps
- Wisconsin DNR Wetland Indicator maps
- Natural Resources Conservation Service (NRCS) Soil Surveys

These maps can be reviewed at Wisconsin DNR and local zoning offices. They are also available online at the Wisconsin DNR and NRCS websites. Remember that maps are just guides and a field visit is necessary to confirm what the maps show. Wetland indicators to look for in the field include water, soils and vegetation.



(WDNR, Carmen Wagner)

Figure 5-15: Ephemeral ponds provide important habitat for many amphibian and bird species.



(WDNR, Carmen Wagner)

Figure 5-16: Marsh marigolds are a common wetland plant.

BMPs: General Wetlands

- ◆ Whenever practical, avoid locating roads and landings in wetlands; otherwise use extreme caution.
- ◆ Whenever possible, forest management activities in wetlands should occur on frozen ground to minimize rutting.
- ◆ For activities in wetlands, consider allowing more flexibility regarding completion dates in timber sale contracts, allowing the logger time to complete logging activities during firm or frozen ground conditions.
- ◆ Do not dispose of or move upland slash into a wetland. However, slash from trees in the wetland may remain in the wetland. NOTE: Using slash for a temporary wetland crossing to prevent rutting is encouraged and addressed in Chapter 12: Forest Road Construction and Maintenance, page 12-18.
- ◆ Keep slash out of open water.
- ◆ Only use pesticides labeled for use in wetlands.
- ◆ Whenever practical, avoid equipment maintenance and fueling in wetlands. Otherwise, use extreme caution when doing so. Clean all spills promptly.



Figure 5-17: To help support equipment and minimize rutting, slash can be used as a temporary wetland crossing. See Chapter 12: Forest Road Construction and Maintenance for more information about this practice.

Regulations

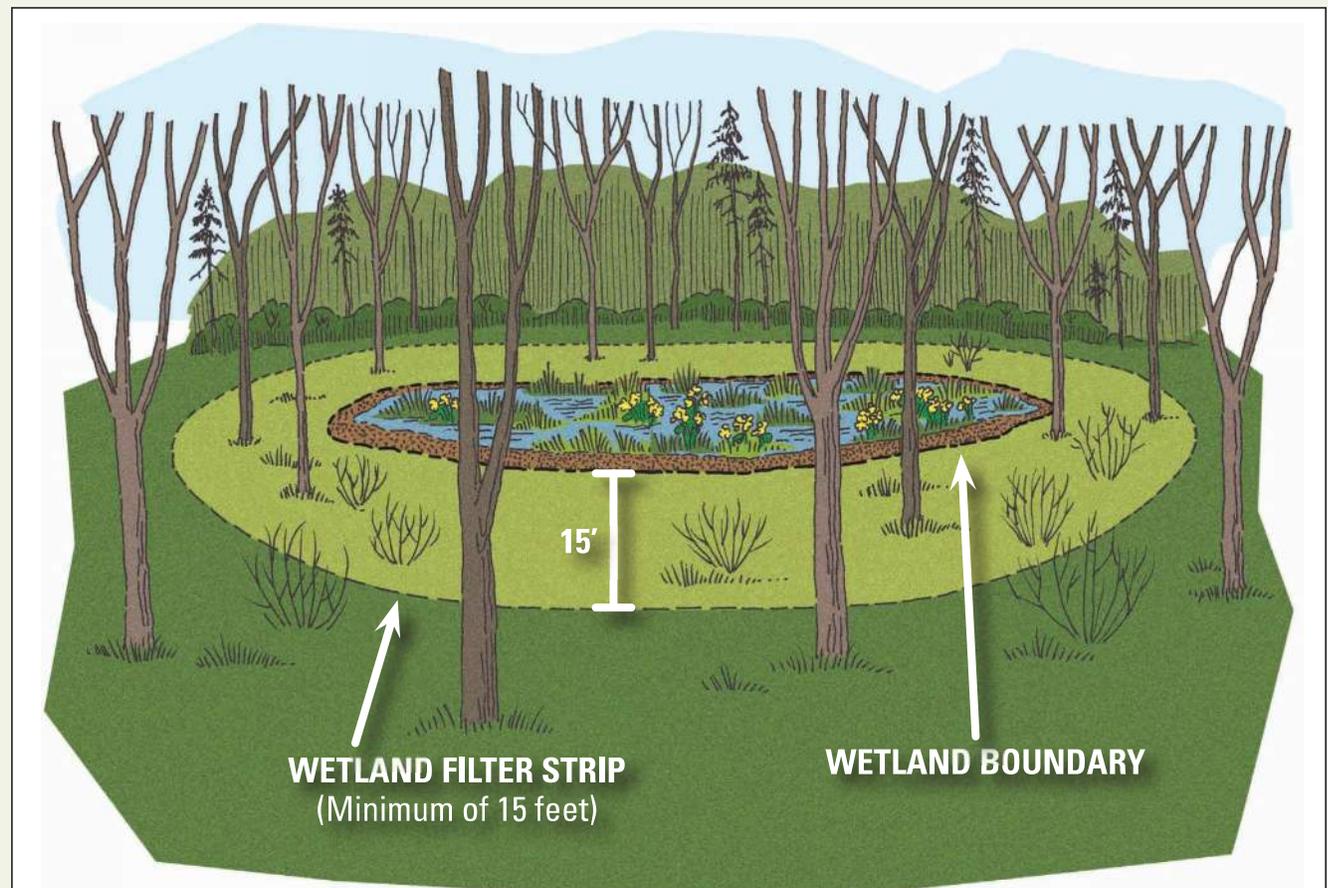
Activities in wetlands are often subject to municipal, county, state, and federal permits and regulatory requirements. Permit and regulatory information can be found in Appendices D and E. If you are building a road or conducting an activity in an area suspected to be a wetland, be sure to contact the following offices regarding applicable permits and regulations:

- local zoning offices (town, village, city, and/or county)
- local Wisconsin DNR water management specialist
- local U.S. Army Corps of Engineers (USACE) project manager

BMPs: Wetland Filter Strip

Filter strips are strips of land located adjacent to wetlands that trap sediment and other pollutants from runoff before it reaches wetlands. Harvesting and other forest management activities can occur both in the wetland and the filter strip. Care should be taken to prevent exposing bare soil that may erode into the wetland. A wetland filter strip begins at the edge of the wetland and extends a minimum of 15 feet away from the wetland.

- ◆ Whenever practical, avoid locating roads and landings in the wetland filter strip; otherwise use extreme caution.
- ◆ Minimize soil exposure and compaction to protect ground vegetation and the duff layer in the wetland filter strip.
- ◆ Operate equipment in the wetland filter strip only when the ground is firm or frozen.



A wetland filter strip begins at the edge of the wetland and extends a minimum of 15 feet away from the wetland. NOTE: The width of a wetland filter strip is measured along the lay of the land (the linear distance along the ground). It is not a horizontal distance, unless the ground is level.

Figure 5-18: How to Measure Wetland Filter Strips (Wisconsin's Forestry Best Management Practices for Water Quality, PUB-FR-093 2010)

RESOURCES FOR ADDITIONAL INFORMATION

These resources are specific to the information in this chapter only. Refer to the Resource Directory for additional resources related to this chapter.



(WDNR, Carmen Wagner)

Figure 5-19: Designated trout streams, regardless of stream width, should have at least a 100-foot wide RMZ.

WISCONSIN WETLANDS ASSOCIATION

<http://wisconsinwetlands.org/>

WATER QUALITY FORESTRY BMPs

dnr.wi.gov – keywords “water quality forestry BMPs”



WISCONSIN DEPARTMENT OF NATURAL RESOURCES NOTICE OF FINAL GUIDANCE & CERTIFICATION

Pursuant to ch. 227, Wis. Stats., the Wisconsin Department of Natural Resources has finalized and hereby certifies the following guidance document.

DOCUMENT ID

FA-20-0005

DOCUMENT TITLE

Wisconsin Forest Management Guidelines

PROGRAM/BUREAU

Forest Economics and Ecology, Applied Forestry Bureau

STATUTORY AUTHORITY OR LEGAL CITATION

S. 823.075, Wis. Stats. & NR 1.25, Wis. Admin. Code

DATE SENT TO LEGISLATIVE REFERENCE BUREAU (FOR PUBLIC COMMENTS)

2/10/2020

DATE FINALIZED

4/6/2020

DNR CERTIFICATION

I have reviewed this guidance document or proposed guidance document and I certify that it complies with sections 227.10 and 227.11 of the Wisconsin Statutes. I further certify that the guidance document or proposed guidance document contains no standard, requirement, or threshold that is not explicitly required or explicitly permitted by a statute or a rule that has been lawfully promulgated. I further certify that the guidance document or proposed guidance document contains no standard, requirement, or threshold that is more restrictive than a standard, requirement, or threshold contained in the Wisconsin Statutes.

March 27, 2020

Signature

Date