



MICHIGAN DEPARTMENT OF NATURAL RESOURCES



The self-propelled raft floats on the blue-green waters of the Big Spring. Photo Credit: Gresham Halstead for Michigan DNR

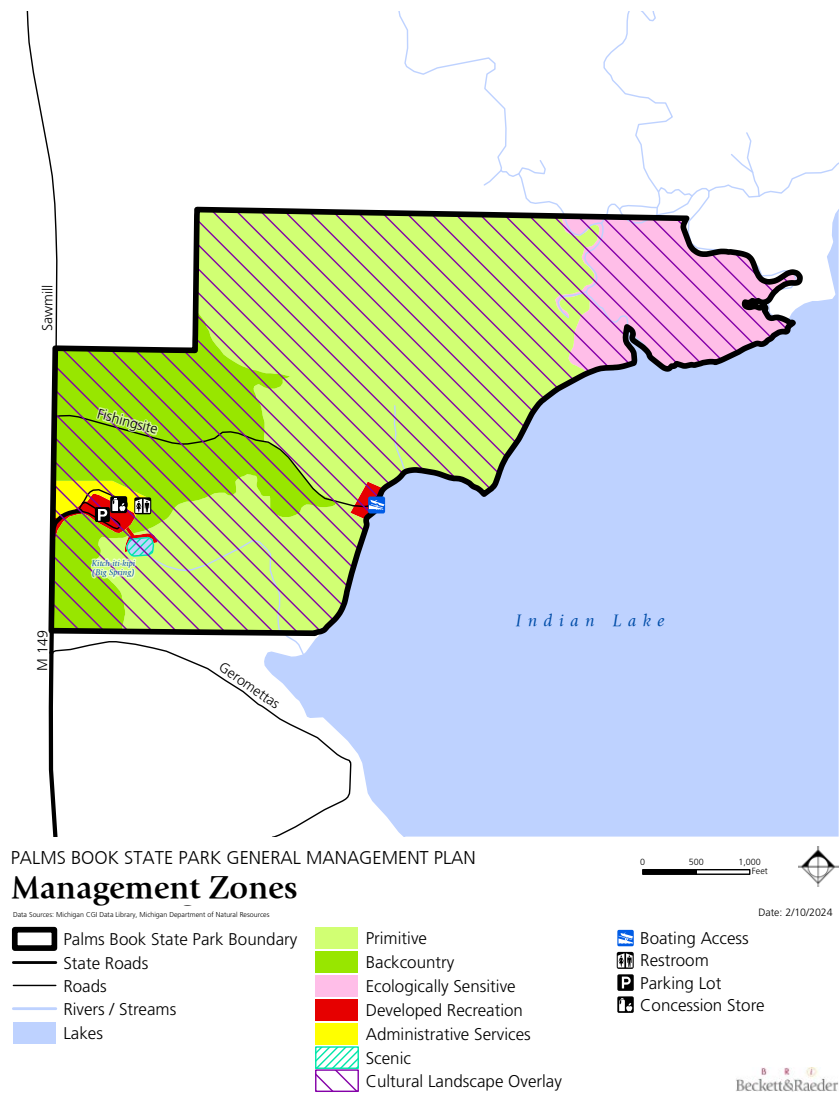
Palms Book State Park

GENERAL MANAGEMENT PLAN

APPROVED JULY 22, 2024

Prepared with the assistance of Beckett & Raeder, Inc

B R 
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This project was directed by Deborah Jensen, Management Plan Administrator, Department of Natural Resources, DNR Parks & Recreation Division with assistance from Beckett & Raeder, Inc.

PLAN APPROVALS:



DNR Chief, Parks & Recreation Division

7/17/2024

Date



DNR Natural Resources Deputy

7/19/2024

Date



DNR Director, Department of Natural Resources

7/22/2024

Date

PLAN APPROVALS

PLAN APPROVAL RECOMMENDATIONS

The following dates reference when the plans were presented for recommendation. In some instances, additional time was allotted for plan review following the presentation with subsequent approval received by email.

APPROVAL BODY`	APPROVAL DATE
PRD - Section Chiefs	3/12/2024
DNR- Resource Management Bureau	4/16/2024
MSPAC- Stewardship Subcommittee	5/22/2024
NRC- Michigan State Parks Advisory Committee	6/13/2024

RESOLUTION NO. 06-2024-04

MICHIGAN STATE PARKS ADVISORY COMMITTEE (MSPAC)

RESOLUTION TO RECOMMEND APPROVAL OF THE
“PALMS BOOK STATE PARK GENERAL MANAGEMENT PLAN”

ADOPTED: June 13, 2024

WHEREAS, the Michigan Department of Natural Resources’ (DNR) Parks and Recreation Division has completed the General Management Plan for Palms Book State Park; and

WHEREAS, the planning process reflects sensitivity to natural resource values, historic and cultural resource values, recreation and education opportunities, and is inclusive of all DNR programs and representative of eco-management; and

WHEREAS, the planning process was further inclusive of stakeholder, constituent, and public input; and

WHEREAS, the General Management Plan represents sound guidance for future planning phases that will be consistent with the mission of the DNR and the Parks and Recreation Division, and reflective of the purpose and significance of Palms Book State Park; and

WHEREAS, the General Management Plan is consistent with the recommendations of the Michigan State Parks and Outdoor Recreation Blue Ribbon Panel and the Parks and Recreation Division’s strategic plan; and

WHEREAS, the General Management Plan has been reviewed and recommended for approval by the Parks and Recreation Division and the MSPAC Stewardship Subcommittee.

THEREFORE, BE IT RESOLVED, that the Michigan State Parks Advisory Committee recommends approval of the Palms Book State Park General Management Plan; and

THEREFORE, BE IT FURTHER RESOLVED that the Michigan State Parks Advisory Committee further recommends that the DNR Director approve the General Management Plan for Palms Book State Park;

Submitted by: Michigan State Park Advisory Committee

Motioned by: Carol Rose
Seconded by: Chris Graham

Yeas:	10
Nays:	0
Abstained:	0
Absent:	2

This Resolution was adopted by the Michigan State Parks Advisory Committee at their meeting on June 13, 2024, as Resolution No. 06-2024-04.

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An aerial view of the Big Spring and raft with bright green foliage surrounding turquoise spring water
Photo Credit: Ana Easlick for Michigan DNR



A view through the center of the raft to fish swimming in the spring water

General Management Plan Executive Summary

Palms Book State Park is a 388-acre park in Thompson Township, Schoolcraft County, in Michigan's Upper Peninsula. It is most well-known for Kitch-iti-kipi (Big Spring), the stunning and easily accessible natural spring that can be viewed by the public on a self-propelled raft. This feature draws more than two hundred thousand visitors annually, who can also stop in the concession/gift shop and enjoy a picnic before continuing their Upper Peninsula journey. Just over 100 acres of the park is also open to hunting and contains expansive wooded wetlands and a boat launch on Indian Lake. Camping is not offered at the park, but visitors often stay overnight at nearby Indian Lake State Park, which is under the same management as Palms Book State Park.

In 1928, the State of Michigan purchased the land around the spring from the Palms Book Land Company for \$10 with the stipulation in the deed that the land was "to be forever used as a public park, bearing the name Palms Book State Park."

The purpose of this general management plan (GMP) is to guide the future long-term management and development of Palms Book State Park. Overall, this plan seeks to uphold

the Michigan Department of Natural Resources (DNR) Parks & Recreation Division's (PRD) Mission: "to acquire, protect, and preserve the natural and cultural features of Michigan's unique resources, and to provide access to land and water based public recreation and educational opportunities." The management plan brings together DNR staff, stakeholders, and the public into a process that defines the following for the state park:

- Purpose and significance that captures the unique identity of Palms Book State Park.
- Twenty-year management zone plan reflecting the resource protection goals and level of development appropriate for different areas of the state park.
- Ten-year action plan that addresses the desired future condition within the state park as a whole and within each of the designated management zones.

The supporting analysis, included as Appendix A of this plan, provides important background information on Palms Book State Park that informs this planning initiative. It includes a comprehensive review of the state park setting, area demographics, history, land ownership, legal mandates, and

cultural, natural, and recreation resources. Furthermore, several existing planning documents, including the DNR Evergreen Goals and the Michigan Statewide Comprehensive Outdoor Recreation Plan, were used as guiding references (see Chapter One).

Significance of Palms Book State Park

This general management plan was developed in consideration of the property's significant features that make it distinct from other parks in the state park system. Palms Book State Park was determined significant due to the aspects that are summarized below. The full statements of significance can be found in Chapter Three.

- Palms Book State Park is one of the must-see destinations in the area, drawing over 200,000 visitors per year.
- Kitch-iti-kipi (Big Spring) at Palms Book State Park is the largest inland spring in Michigan, fed by more than 10,000 gallons of water per minute. The spring and surrounding landscape are identified as Traditional Cultural Property significant to the heritage of the Great Lakes Anishinaabek.
- Palms Book State Park makes an unusual, high-quality natural attraction easily accessible to visitors and is visible year-round. Visitors can enjoy the unique experience of traversing the spring on a self-propelled barrier-free raft.
- Multiple organizations assist the DNR Parks and Recreation Division and contribute to the success of Palms Book State Park, including the DNR Fisheries Division, US Fish and Wildlife Service, The Friends of Indian Lake and Palms Book State Parks, the Delta County Search and Rescue.



Visitors to the spring traverse the accessible path through the woods

Management Zones

A key goal in the development of this general management plan is to continue to protect the park's natural and cultural resources, while providing recreation and education opportunities. Taking this into account, the planning team, with stakeholder and public input, established appropriate management zones for the park from a palette of nine standard zones. The management zone map and a thorough review of each management zone are found in Chapter Four of this plan. A condensed description of each of the applied management zones is as follows:

Ecologically Sensitive Zone

The purpose of this zone is enhancement and protection of native communities and natural processes over and above any other uses (including recreational). For example, the Ecologically Sensitive Zone may be used to protect imperiled ecosystems (e.g. prairie fen), or federally and state protected species (e.g. dwarf lake iris or the Hine's emerald dragonfly). This zone is highly restrictive for public use and development. This zone covers 13% of the park and includes lowland shrub and wetland areas, including poor fen, which is a high-quality natural resource.

Primitive Zone

The primary purpose of the Primitive Zone is the protection of natural resources and natural processes. The zone is managed for low-impact recreational experiences in a primitive, natural landscape. Only dispersed, self-reliant, and low-frequency use is allowed. Attaining and maintaining a high-quality natural resource condition dictates the extent to which recreational improvements or uses are allowed. This zone covers 63% of the park and includes wetland areas which are sensitive and not suitable for development.

Backcountry Zone

The character of this zone is natural, with minimal evidence of human impact through recreational use. While the Primitive Zone is highly restrictive for recreational use and human impact, this zone allows for slightly increased use, including bicycle and equestrian use as appropriate, and modifications of the landscape (e.g. trail development) to accommodate that use. This zone covers 21% of the park and includes forested upland areas of the park outside of the main day-use area.

Developed Recreation Zone

The Developed Recreation Zone supports active recreation with high density of use conducted in areas not designated for natural resource significance. In this zone, recreation dominates with natural resource attributes enhanced as possible. This zone is approximately 4.75 acres, or just over

1%, of the park and includes the main day-use area with the parking lot, concession/gift shop, restroom, picnic area, walkway to the springs, and the boat launch.

Administrative Services Zone

This zone encompasses the developed areas required for program administration and operations. Typically, it will include offices, contact stations, maintenance facilities and all related land base required to conduct the business of running a state park or park. This zone covers 4.2 acres (roughly 1%) of the park and includes the service area behind the concession/gift shop and the drain field.

Scenic Overlay

The Scenic Overlay recognizes that there are aesthetic qualities to be preserved and protected in our state park and recreation areas. Examples of this zone include scenic views, such as the overlook escarpment at the Lake of the Clouds in Porcupine Mountains Wilderness State Park, or linear components such as a scenic road or a scenic river. In this park, the Scenic Overlay is applied over the waters of the spring, and covers 0.8 acres of the park.

Cultural Landscape Overlay

This zone addresses the overall cultural setting of a site, including historic structures and ethnographic sites. For example, a location associated with a particular cultural resource, such as an abandoned mine townsite representative of a bygone era, would qualify as a Cultural Landscape Zone. The Cultural Landscape Zone is applied as an overlay (subset) of the management zones in this park, and as such, the guidance for the underlying zones will also apply. The cultural landscape overlay is applied over the entire park.

Ten-Year Action Plan

Once the planning team has established management zones to guide Palms Book State Park for the next 20 years, action items are identified that are desired to be implemented within the next ten years. The actions are broken down into categories pertaining either to an area of management and operations, infrastructure/development projects that require capital outlay, small infrastructure and development projects, or partner projects. Future improvements will be considered in the context of efficiency, environmental sustainability, and resiliency. Below is a summary of the action plan for the park. The full ten-year action plan can be found in Chapter Five.

Management and Operations

Projects related to the management and operations of the park include continuing to explore land acquisition of properties within the project boundary, continue to monitor

and control invasive species, work with others to provide visitor use information to spread use more equitably and avoid peak times, complete a natural resource stewardship plan for the park, clarify the Wildlife Conservation Order that defines land open to hunting, review and update interpretive opportunities on- and off-site, revise the spelling of the traditional tribal name of the spring in all materials from the DNR and other entities, and gather and analyze information related to the wait times and carrying capacity of the park to develop an improvement strategy. In addition, the park will work with the Forest Resources Division to exchange lands west of Sawmill Road to facilitate expansion of Palms Book State Park parking areas.

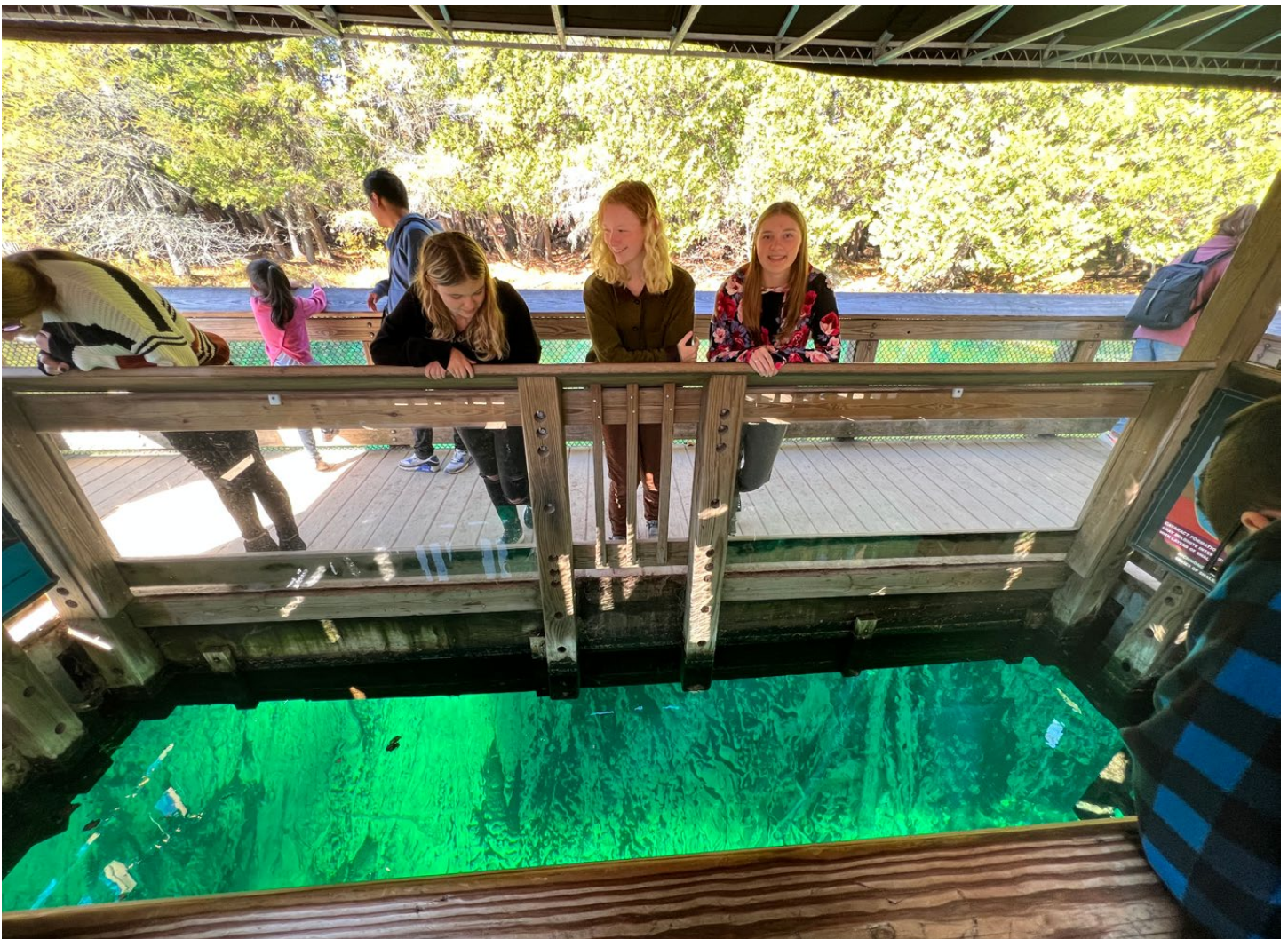
Infrastructure and Development: Capital Outlay

Projects within the next ten years that require capital outlay funds to complete such as rehabilitating the raft system considering alternative spring viewing opportunities, and

enhancing and redeveloping the parking lots. These projects are also funded by the American Rescue Plan Act (ARPA), which provided \$250 million in federal relief programming for critical state park and trail infrastructure through the Building Michigan Together Plan, signed into law in March 2022. Federal funding conditions require these projects to be completed by the end of 2026. Other capital outlay projects include completing the septic field upgrade and constructing a new well, storage building, and contact station.

Infrastructure and Development: Small Projects

Within the last few years, The Friends of Indian Lake and Palms Book State Parks funded an upgrade to the railings alongside the trails to the springs which help to keep visitors on the trail and protect the sensitive wetlands around the spring. Future small projects for the park would update the day-use picnic facilities to ensure functionality and accessibility.



Smiling youth look through the center of the raft to the spring waters below



A winter visitor to the snow-covered raft turns the propeller wheel

Chapter One:

Core Values & Guiding Resources

1.1 Mission Statements

Throughout the planning process, the core values of the Department of Natural Resources (DNR) were the foundation of the planning team's decisions. These include the mission statement of the DNR, the DNR Evergreen Goals, and the DNR Parks & Recreation Division (PRD) Mission Statement. These values set the protection of natural and cultural resources and the provision of recreational and educational opportunities at the forefront of the plan.

DNR Mission Statement

The Michigan Department of Natural Resources is committed to the conservation, protection, management, use, and enjoyment of the state's natural and cultural resources for current and future generations.

DNR Evergreen Goals

- **Protect** natural and cultural resources
- **Ensure** sustainable recreation use and enjoyment
- **Enable** strong natural resource-based economies
- **Foster** effective business practices and good governance
- **Improve** and build strong relationships and partnerships, internally and externally

PRD Mission Statement

The Parks & Recreation Division's mission is to acquire, protect, and preserve the natural and cultural features of Michigan's unique resources, and to provide access to land and water based public recreation and educational opportunities.

1.2 Guiding References

The general management planning process is guided and shaped by several resources developed to provide recommendations for managing Michigan's parks and recreation system. In particular, these resources have helped shape the ten-year Action Plan established in this plan.

Michigan State Parks & Outdoor Recreation Blue Ribbon Panel Report (2012)

The Blue Ribbon Panel's report to Governor Snyder identifies a number of recommendations for system-wide changes to programs, management, infrastructure type, and investment strategies that set up the visionary framework for the next 30-50 years of park and outdoor recreation management in Michigan. Recommendations in the report include:

- Identify and protect important natural, cultural, historic, and prehistoric resources

- Diversify funding
- Prioritize development of statewide and regional systems of connected trail networks
- Encourage connections between communities and their recreational assets to strengthen regional identities
- Integrate tourism and economic development marketing
- Prioritize investment in parks and recreation

Michigan Statewide Comprehensive Outdoor Recreation Plan 2023-2027 (SCORP)

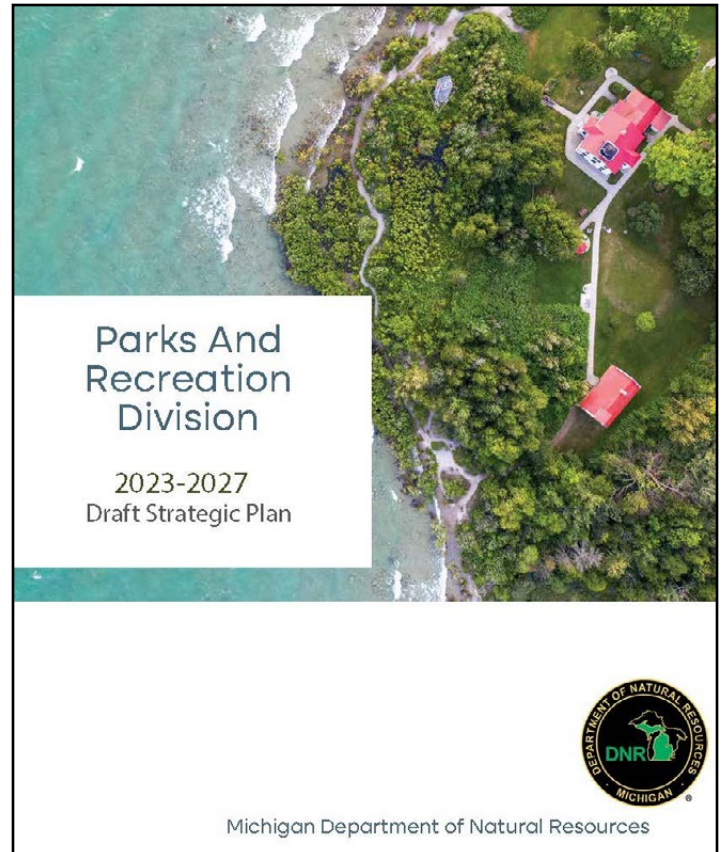
SCORP is a five-year strategic plan that shapes investment by the state and local communities in priority outdoor recreation infrastructure and programming. The plan's overarching goal is to "ensure that Michigan's outdoor recreation assets are equitably distributed, developed and managed to provide convenient and welcoming access to the outdoors for healthful, outdoor physical activity; and while sustaining our lands, waters and wildlife for current and future generations, drive broad-based economic and quality-of-life benefits to people and communities," with the following strategies:

- Improve collaboration: Outdoor recreation stakeholders collaborate and cooperate to ensure that Michigan's recreation system meets the needs of residents and visitors.
- Improve and expand recreational access: Recreation opportunities are connected and accessible to residents and visitors of all backgrounds, abilities, means and geographic locations.
- Enhance health benefits: Outdoor recreation increases the physical activity and 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.

DNR Public Land Strategy – The Power of Public Lands (2021-2027)

The public land strategy provides a framework for the conservation and management of DNR-managed public land to ensure the best use of the state's natural and cultural resources for the benefit of Michigan residents and visitors. The strategy sets priorities and guides actions for the best use of the 4.6 million acres of state forests, parks, trails, game and wildlife areas, and other public lands the Michigan DNR is entrusted to manage on behalf of the people. The plan identifies three broad goals with strategies and measurable objectives for each goal. These goals are to:

- Protect natural and cultural resources
- Provide access to outdoor public recreation opportunities
- Perform responsible natural resource management



Michigan DNR PRD Strategic Plan Cover

PRD Strategic Plan (2023-2027)

The PRD Strategic Plan is the overarching document that guides the Parks and Recreation Division in carrying out its mission. This plan establishes long-range goals, objectives, and strategies for Michigan's state parks and recreation system for the 5-year period beginning in 2023. The goals identified in the plan are:

- Preserve, protect, maintain and restore Michigan's natural and cultural resources on PRD administered lands.
- Foster appreciation for natural and cultural resources by providing inclusive and diverse recreation and education experiences.
- Sustainably fund PRD programs, operations, maintenance and facilities.
- Integrate environmentally sustainable practices into PRD culture.

Michigan Department of Natural Resources Trail Plan (2022-2032)

The 2022-2032 Michigan DNR Trails Plan guides the direction of more than 13,400 miles of Michigan's diverse trail opportunities and lays out key goals to ensure these assets are sustained and remain relevant into the future. To further elevate Michigan's national reputation as the Trails State, the DNR will pursue the following goals over the next ten years:

- Sustainable maintenance and development: Manage Michigan's state-designated trails system to sustainably maintain and improve existing conditions while supporting the DNR's long-term natural and cultural resource management goals.
- Funding: Develop and refine funding structures to ensure state-designated trails provide quality recreation and transportation experiences.
- Planning and collaboration: Model trail planning best practices to maintain and improve strong relationships and partnerships with the public, stakeholders and other governmental agencies.
- Marketing, promotion and education: Promote Michigan's diverse trail opportunities to residents and visitors, accurately depicting experiences found throughout the state.

Division. The general and site-specific legal mandates applicable to Palms Book State Park are listed in Appendix A: Supporting Analysis.

The legal mandates that most directly impact planning and management at Palms Book State Park focus on the following areas:

- Federal mandates to provide accessible facilities
- Preservation of natural and cultural resources
- Water resources protection
- Hunting area controls
- Requirement for a Recreation Passport for entry into the park

1.3 Summary of Legal Mandates

For all park general management plans, legal mandates are identified that serve to further guide the development of the plan, park management, and park operations. For the DNR's planning purposes, the term "Legal Mandates" refers to not only state law, but also the administrative tools of "Policy" and "Directive" of the Natural Resources Commission, the Department of Natural Resources, and the Parks & Recreation



Michigan DNR Trails Plan Cover



On a dark winter night, the starry sky can be seen behind the raft. Photo Credit: Marybeth Kiczinski for Michigan DNR



Two visitors stand beside the Palms Book State Park entry sign

Chapter Two:

Plan Process Overview

2.1 Planning Objectives

Palms Book State Park has long been a site of cultural importance and has dramatically increased in popularity and visitation in recent years. The fascinating geological feature of the Big Spring and the unique accessible viewing experience is encompassed within an ecologically sensitive and culturally important area that must be treated with care, in balance with the desire to provide access to visitors. As the rate of visitation increases, the park's infrastructure is taxed, and the resources must have greater protection.

This general management planning process sets out a framework for protecting the park's resources while providing meaningful visitor experiences. The long-range vision and management objectives for Palms Book State Park are derived from the missions of the DNR and the Parks & Recreation Division (PRD), applicable legal directives, the purpose of the park, and the park's significant natural and cultural resources.

The objective of the general management plan (GMP) is to bring together PRD staff, staff from other resource divisions, stakeholders, and the public into a planning process that defines and clarifies the unique purpose and significance of

Palms Book State Park. Collectively, those attributes will be reinforced in the planning and management decisions that impact the park. Through this process, the team creates a 20-year management zone plan to guide park planning decisions as well as a 10-year action plan to establish specific action strategies for the park. Each GMP is reviewed every five years to ensure there have been no major changes that would warrant a revision to the approved plan.

2.2 Planning Process

The planning team met periodically over a 16-month period to develop the GMP, beginning in October 2022 and ending in February 2024. Throughout the process, the team sought the input of the public and stakeholders to guide the decisions made in the plan. A stakeholder workshop was held in April 2023 to gather insight from organizations tied to the park. In addition, an online public input survey was available for interested parties to comment on their current use of the park and their priorities for the future. Following the input sessions and survey, the team developed a ten-year action plan and developed the draft plan.

2.3 Planning Team

This plan was developed with the direct assistance, input, and expertise provided by all members of the planning team. The planning process and document development was facilitated by Beckett & Raeder, Inc.

2.4 Summary of Input Opportunities

Public input is a critical part of the planning for Palms Book State Park. Below is a summary of the public and stakeholder input methods that were used to inform the development of the GMP. Several different methods were used to ensure everyone had an opportunity for input. Full reports for each of the outreach methods are included in Appendix B of this plan.

Project Website

Information about the general management planning process was hosted on a webpage for the project. This was updated with results of the public input survey, the draft of the GMP, and notifications about the public meeting. The website contained contact information so that the public could contact the planning team at any time with questions, concerns, and input.

Stakeholder Input Workshop

To gather targeted input from individuals and groups in the community representing governmental, non-profit, and business/tourism entities, the planning team invited over 40 stakeholders to participate in a facilitated input workshop jointly held with Indian Lake State Park, on May 16, 2023, from 10:00 am to 12:00 p.m. at the Comfort Inn in Manistique, Michigan. Representatives of the Michigan Department of Natural Resources (DNR) provided the stakeholders with a brief overview of Palms Book State Park, including its natural features, cultural resources, and recreational offerings. The

Planning Team

DIVISION	TITLE	NAME
PRD	Management Plan Administrator	Debbie Jensen
PRD	Unit Supervisor	Dennis Green
PRD	Lead Ranger	Abbie Klink
PRD	District Supervisor	Eric Cowing
PRD	Regional Planner	Keith Cheli
PRD	Unit Manager	Nick VanBloem
PRD	Ecologist	Ben Travis
PRD	Historic Architect	Robb McKay
PRD	Lands Liason	Matt Lincoln
MHC	Archaeologist	Stacy Tchorzynski
MOD	Interpreter	Theresa Neal
FD (Fisheries)	Fisheries Biologist	Darren Kramer
FRD (Forestry)	Forester	Scott Kentner
LED (Law)	Lieutenant	Skip Hagy
MMS (Minerals)	Geologist	Peter Rose
WLD (Wildlife)	Wildlife Biologist	Heather Shaw
PRD	Commercial Services Admin	Lori Green

stakeholders were also presented the general management plan process, timeline, and an explanation of the plan elements that their input would inform: the statements of significance and the management zone map.

The stakeholders were divided into two small-table discussion groups, which completed a series of exercises describing the park's context, the park itself, opportunities for partnerships, the park's potential benefit to the larger community, and the stakeholders' vision for the park's future. Each table then reported out to the larger group. The three most top items stakeholders identified were to keep the raft, improve parkways and boundaries and maintain the pristine/natural state. The results of the table exercises can be found in Appendix B.

On-Site Survey

Another method designed to give representative user feedback to guide the management plan, but in less depth than the online public input survey, was an on-site use and



A stakeholder presents the results from their group

user study undertaken in association with Michigan State University. The study included a survey of a representative sample of park visitors to provide an overall estimate of mean user hours per vehicle in day use parking areas, assess local spending, ascertain the opinion of park users about the future management options and approaches, and provide a profile of park visitors, both campers and day users. This on-site approach sampled users on systematically selected days and times across June – November of 2017. It used a windshield survey at the only public access point to the park to ensure representation of the full range of park users.

Overall the site is highly appreciated for the unique experience of the beautiful natural setting and the joy of riding on the raft over the springs. Users wanted the raft experience to continue and for the park to remain largely unchanged. A full report can be found in Appendix D.

Online Public Input Survey

One of the methods the planning team used to gather input from park users was an online survey. This approach provides a convenient way for those who have access to the internet to provide feedback, though it is not designed to be statistically representative of Palms Book State Park users or uses, as respondents self-select. The online survey provides valuable information about what certain individuals or groups hope to see in the park's future management.

The survey was advertised to a diverse range of people through various means. A press release was sent to Subscribers of Statewide DNR News, which included over 87,600 recipients and promoted on social media. The survey link was also sent to over 40 stakeholders the planning team had identified who were invited to share the survey. In addition, it was sent to those who had made reservations (camping or shelter) at Indian Lake State Park in the last 3 seasons (10,737 recipients).

Responses were collected from April 26, 2023, through May 25, 2023. During the collection period, 327 individuals responded to the survey. The survey included questions on why visitors chose to visit the park, their overall experience with the spring viewing, ways the park could be improved, and input on amenities such as the park restrooms, concession/gift shop, and parking area.

One theme included addressing wait times and line management, such as implementing a real-time app or information system, considering timed entry options during busy months, or ensuring a timely schedule for the raft. While respondents were generally not supportive of a timed entry program, there was general support for a different viewing opportunity if wait times could be reduced, so long as it did not adversely impact the natural surroundings. Addressing

parking limitations and improving the spring viewing opportunity is a key focus of the action plan for this park. A full report of the public input survey can be found in Appendix B.

Tribal Communication

The department's tribal coordinator reached out to the twelve federally-recognized Tribes in Michigan with a letter notifying them of the GMP process and timeline and inviting input. During the planning process, members of the Planning Team met with Marie Richards, Repatriation and Historic Preservation Specialist with the Sault Tribe of Chippewa Indians to discuss Tribal interests within the park and the Indian Lake area. This included a discussion on the spelling of the indigenous name of the Big Spring. A correction to the spelling was suggested and discussions are on-going to reach a consensus amongst interested Tribes. Education and interpretation was also identified as a topic of interest.

Public Meeting

The public was invited to share their thoughts about the Palms Book State Park Draft General Management Plan at a virtual public meeting that was hosted online by the Department of Natural Resources (DNR) on November 29, 2023, from 6:00- 7:30 p.m. The general public was notified about the meeting through a press release, internet postings, and email notifications. A total of 17 attendees were recorded.

The meeting began with an introduction of planning team members, followed by an overview of the general management plan process, Palms Book State Park, and the draft general management plan contents. The presentation was followed by a question and answer period. Topics discussed included the spelling of Kitch-iti-ki.

At the end of the meeting, attendees were asked to visit the interactive public input survey link to review and comment on the statements of significance, management zone plan, and ten-year actions. There was also a section for additional feedback on the management plan and the input process. The survey link was posted to the park's website along with a recording of the meeting. The survey link was open through December 17, 2023. Comments could also be submitted during that time via email. Minimal input was received and no changes to the plan were made as a result. A full report of the input received can be found in Appendix B.

2.5 Climate Adaptation Planning

The following shows select anticipated climate change impacts and vulnerabilities that could impact infrastructure and recreation at Palms Book State Park, drawn from ecosystem-based vulnerability assessments lead by the Northern Institute of Applied Climate Science. Impacts related solely to vegetation cover are not included here. Source: Northern Institute of Applied Climate Science summary of vulnerability assessments – www.adaptationworkbook.org/explore-impacts.

- Northern Michigan temperatures will increase between 4°F and 10°F by the end of the century, with more warming during winter.
- Northern Michigan's winter snowpack will be reduced from 30-80% by the end of the century.
- Intense precipitation events will continue to become more frequent in northern Michigan.
- Many invasive species, insect pests, and pathogens in northern Michigan forests will increase or become more damaging by the end of the century.
- Surface water temperatures are expected to rise due to warming air temperatures.

Some of the potential impacts of the changes to park use and management include :

- Extended use season, which could have both benefits in terms of revenue and challenges in terms of staffing
- Less snow could result in a shortened use season for traditional winter trail use activities

- Shoreline/ trail erosion
- Flooding due to increased precipitation/high waters
- More insect pests impacting visitors and vegetation
- Increased frequency and intensity of storms
- Higher temperatures affecting visitor comfort and safety, desire to be close to and access to the water

A variety of adaptation strategies, approaches and tactics will be considered to address these impacts in both the short- and long-term park management and development decisions.

Approaches include:

- Resistance: Improving defenses against change and disturbance to retain a relatively unchanged condition
- Resilience: Accommodating some degree of change to allow return to prior condition following disturbance
- Transition: Intentionally facilitating change to align a system to new conditions.

Adaptation planning is critical for communities and facilities, including Palms Book State Park, that encounter risks such as those identified above. Increasing resilience and mitigating hazards will continue to be an important goal for the park management staff and will be considered as part of all action items moving forward. Specifically at Palms Book State Park, actions will focus on continuing to provide a positive visitor experience as the popularity of the site continues to increase and the use season extends, as well as monitoring and preventing issues related to invasive species and other stewardship initiatives and monitoring the water quality at the spring with increased rainfall runoff.



The self-propelled raft floats across the spring



A young visitor points to the fish in the spring from the side of the raft

Chapter Three:

Purpose and Significance

3.1 Purpose of Palms Book State Park

Park purpose statements are based on park legislation, legislative history, special designations and Department of Natural Resources (DNR) policies. These statements reaffirm the reasons for which Palms Book State Park was included as part of the state park system.

- To be used for state park purposes of public recreation or the preservation of natural beauty or historic association in accordance with Act 218, Public Acts of 1919, which created the Michigan State Park Commission.
- To preserve and protect Palms Book State Park's unique natural and cultural resources for current and future generations, specifically the "Big Spring".
- To provide access to land and water based public recreational opportunities.
- To provide educational and interpretive opportunities for the public that reflect the DNR mission and the unique qualities of Palms Book State Park

3.2 Statements of Significance

Each general management plan (GMP) developed by the Michigan DNR Parks and Recreation Division (PRD) is built upon the foundation of the park's significant features that make it distinct from other parks in the state's system. Palms Book State Park was determined significant due to the following:

Popular Attraction

Palms Book State Park is one of the must-see destinations in the Upper Peninsula conveniently located just a few miles north of US-2 near other attractions. Over 200,000 visitors per year are drawn to the park from across Michigan and beyond, making the concession/gift shop one of the top-grossing stores in the state park system.

Kitch-iti-kipi

Kitch-iti-kipi (Big Spring) at Palms Book State Park is the largest inland spring in Michigan. The spring is nearly 50 feet deep and is fed by groundwater gushing from fractures in the bedrock at a rate of more than 10,000 gallons per minute and at a constant temperature of 45 degrees Fahrenheit. The flow causes sediment at the bottom of the spring to ripple and bubble. Great Lakes Anishinaabek identify the unique spring and associated landscape as a Traditional Cultural Property significant to their heritage.

Accessible Natural Beauty

Palms Book State Park makes an unusual, high-quality natural attraction easily accessible to visitors. The large inland spring water is constantly flowing and does not typically freeze,

making it viewable all year. Visitors can easily enjoy the unique experience of traversing the spring on a self-propelled raft to peer into the clear emerald water and view the roiling springs and large lake trout. The site is easy to navigate, and the walkway and raft provide barrier-free access to the springs.

Cooperative Management

Multiple organizations assist the DNR Parks and Recreation Division and contribute to the success of Palms Book State Park. The DNR Fisheries Division and US Fish and Wildlife Service stock Kitch-iti-kipi with lake trout. The Friends of Indian Lake and Palms Book State Parks are very active in fundraising for the park and improving it for visitor access, and the Delta County Search and Rescue help to keep the spring free of debris.



A panoramic photo of the woods surrounding the spring

3.3 Public Affirmation of Significance

Stakeholder and public input assisted the planning team with affirming the significant features and opportunities at Palms Book State Park. The feedback from the online survey confirmed that the unique experience of visiting the natural spring, its peaceful and natural setting, and the memories of visiting the park with family and friends were key aspects of the park. Comments from survey respondents relating to those significant features are provided below.

"I have been coming here since I was a little girl. We vacationed on Indian lake most summers. Kitchitakipi was always a stop. I love the simple raft, cool clear water, bubbling springs, and huge fish. The woods surrounding it are interesting as well."

"The spring is a walkable distance, yet remains natural and beautiful."

"It is still quiet there. It has not turned into 'every tourist spot in America that looks the same.'"

"It's just so beautiful and brings back happy memories of my father and grandmother, aunt and uncle who have passed on."

"Enjoyed watching large trout in the spring from the raft. The forest environment around the spring was enjoyable. This is very natural setting and development should be avoided if at all possible."

"We always enjoy the color of the water and the big fish."

"I love the Big Spring and watching the fish. It certainly brings back memories of being a child and visiting with relatives. Love it!"



A panoramic photo of the woods surrounding the spring

3.4 Community Connection

The Big Spring at Palms Book State Park has always been an important feature of the area, beginning with the Anishinaabek, then as a tourist attraction, and now the main feature of a state park. This has made it an integral part of the surrounding community. In modern times, the draw of the spring brings hundreds of thousands of visitors through the area, contributing to the economic impact of the many natural wonders this part of the Upper Peninsula displays.

The Friends of Indian Lake and Palms Book State Parks have been dedicated partners in ensuring the enduring success and beauty of the park. Most recently, the group funded the construction of an improved railing for the boardwalk to the springs, which helps to protect the sensitive natural resource.

Since Palms Book State Park does not offer overnight accommodations, it is closely tied to the nearby Indian Lake State Park, which offers a modern camping experience in a

beautiful setting on the shores of Indian Lake. Visitors to Palms Book State Park often stay overnight at Indian Lake State Park or at other nearby campgrounds.

The park is also located close to Manistique, Michigan, where visitors can find lodging, restaurants, and shopping. The synergy between the town and the park supports private resorts and establishments, such as the Big Springs Inn and Tavern. The 2017 onsite survey (see Appendix D) indicated that more than 40% of Palms Book visitors stayed in an area motel or hotel, providing considerable economic benefit to the area. Another significant portion camped at Indian Lake or another nearby campground. Spending at restaurants in particular by visitors was widespread with over 60% eating one or more restaurant meals within 20 miles of the park. Such spending is a significant positive impact for the local economy as many such businesses are locally owned and labor intensive, keeping money spent local.



A group of four raft-riders smiles during their ride

Management Zone Progression Table

MANAGEMENT ZONE	NATURAL RESOURCE IMPACTS	VISITOR USE	DEVELOPMENT LEVEL
ECOLOGICALLY SENSITIVE	None	Restricted	None
PRIMITIVE	Very low	Low (dispersed)	Very low
BACKCOUNTRY	Low	Low to moderate	Low
CULTURAL LANDSCAPE	Low to moderate	Moderate	Moderate
NATURAL RESOURCE RECREATION	Moderate	Moderate to high	Moderate
SCENIC	Moderate	Moderate to high	Moderate
HISTORY EDUCATION	Moderate to high	High	Moderate to high
DEVELOPED RECREATION	High	High	High
ADMINISTRATIVE SERVICES	High	High (primarily staff)	High

Chapter Four:

Management Zones

The 20-year management zone plan was developed in keeping with the park's purpose and significance. The primary goal in the development of the management zones is to protect and enhance the park's natural and cultural resources while also supporting outdoor recreation and education opportunities. From a palette of nine management zones, the planning team studied the park and applied zones that best fit distinct areas of the park based on existing and desired future conditions. Management zones describe a variety of activities that may be appropriate within the zone and address the desired future condition for the following categories:

- Natural resources
- Historic/cultural resources
- Recreation opportunities
- Education/interpretation opportunities
- Visitor experience
- Management focus

The resource condition, visitor experience, and level of development vary in each of the nine standard zones, as indicated in the figure above. Palms Book State Park was divided into the following five standard zones and two overlays:

- Ecologically sensitive zone
- Primitive zone

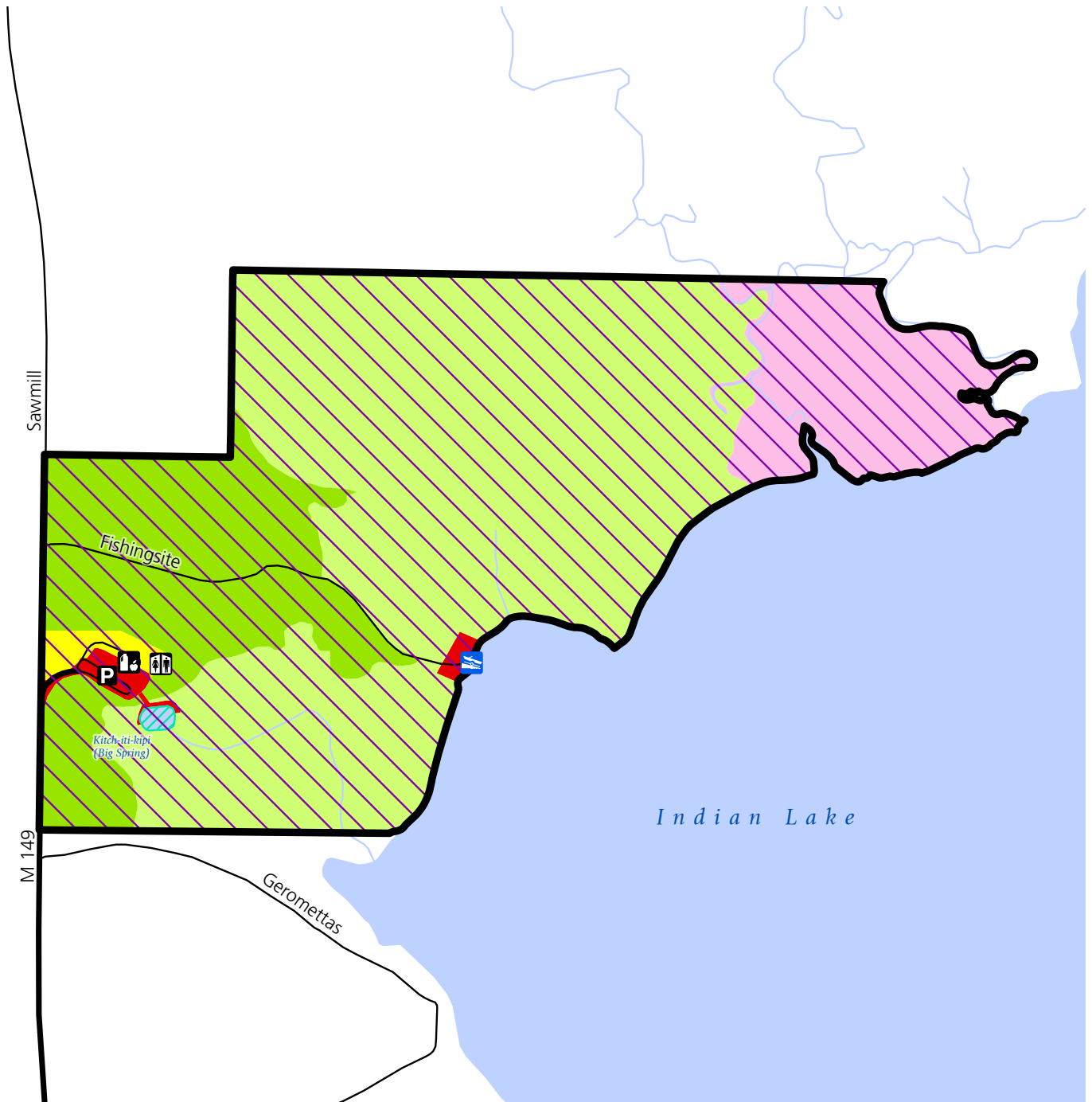
- Backcountry zone
- Developed recreation zone
- Administrative services zone
- Scenic overlay
- Cultural landscape overlay

Sections 4.2 through 4.8 are standard management zone descriptions for zones applied to Palms Book State Park. Examples of recreation activities and development that may be allowed in each zone are general and may not necessarily be appropriate or allowed at this location.

4.1 Project Boundary

Project boundaries are geographic lines that help define the state's public lands acquisition and disposal strategy (land strategy). These boundaries contain a majority of state ownership, as well as privately owned lands that, should they ever become available for sale, would be a priority for the DNR to pursue acquiring.

The DNR undertook a comprehensive statewide project boundary review in 2020. The GMP planning team reviewed the project boundary for Palms Book State Park and supports the 2020 Project Boundary approved by the Natural Resources Commission and the Director of the DNR with no suggested revisions.



PALMS BOOK STATE PARK GENERAL MANAGEMENT PLAN

Management Zones

Data Sources: Michigan CGI Data Library, Michigan Department of Natural Resources

Date: 2/10/2024

- Palms Book State Park Boundary
- State Roads
- Roads
- Rivers / Streams
- Lakes

- Primitive
- Backcountry
- Ecologically Sensitive
- Developed Recreation
- Administrative Services
- Scenic
- Cultural Landscape Overlay





- Boating Access
- Restroom
- Parking Lot
- Concession Store



MICHIGAN DEPARTMENT OF NATURAL RESOURCES



Palms Book State Park - Park Boundary

-  State Park Boundary
-  NRC 2020 Approved Project Boundary*
-  State Forest
-  National Forest



Updated: 01/27/2023

*A project boundary is a geographic area in which the DNR is seeking to acquire property that supports the mission of the DNR on a willing buyer / willing seller basis, approved by the Natural Resources Commission in 2020

The approved project boundary includes adjacent undeveloped parcels that, if included within the park, would simplify ownership and management of those lands. The parcel on the west side of the park along Sawmill Road would consolidate land in state ownership and reduce the boundary between state and private land, as the land on the west side of Sawmill Road is State Forest land. The parcel on the east side of the park, between Indian River and Indian Lake, is considered an inholding and if acquired could be administrated by either the Parks and Recreation Division or the Forest Resources Division of the DNR. The area encompassed by the 2020 NRC Approved Project Boundary is 433 acres, which, if purchased, would add 45 acres to the park.

4.2 Ecologically Sensitive Zone

The purpose of this zone is enhancement and protection of native communities and natural processes over and above any other uses (including recreational). For example, the Ecologically Sensitive Zone may be used to protect imperiled ecosystems (e.g. prairie fen), or federally and state protected species (e.g. dwarf lake iris or the Hine's emerald dragonfly). This zone is highly restrictive for public use and development. This zone covers 13% of the park and includes lowland shrub and wetland areas, including poor fen, which is a high-quality natural resource.

Natural Resources

- Native species and natural processes predominate.
- The overall character is pristine.
- Native Michigan natural communities/ecosystem components and processes are maintained, restored and protected.
- Natural hydrology is maintained or restored.
- Human-caused habitat fragmentation and impacts of recreational use are eliminated.
- Non-native species are controlled or eliminated.
- Vegetative management is only allowed to restore and maintain natural ecological structure and processes (such as removal of invasive species), and to manage pests and disease.
- Prescribed fire is allowed to mimic natural disturbance or control invasive species.

Cultural Resources

- Archaeological resources are preserved.
- Ethnographic resources (landscapes, objects, plants and animals, or sites and structures that are important to a people's sense of purpose or way of life) are protected.

- Extant historic structures may be preserved, but more often are removed or allowed to molder in place.

Recreation Opportunities

- Very limited, unless classified as a seasonal zone.
- Trails are non-existent or very low density.

Education Opportunities

- No interpretation on-site.
- Off-site interpretation focused on natural and cultural resource.
- Researchers/scientists may be allowed access by permit.

Visitor Experience

- Highly restricted visitor use.

Management Focus

- Protection of the resource and monitoring.
- Some ecological research may be allowed.

Development

- No development except as needed for resource protection.
- Very little evidence of human activity.



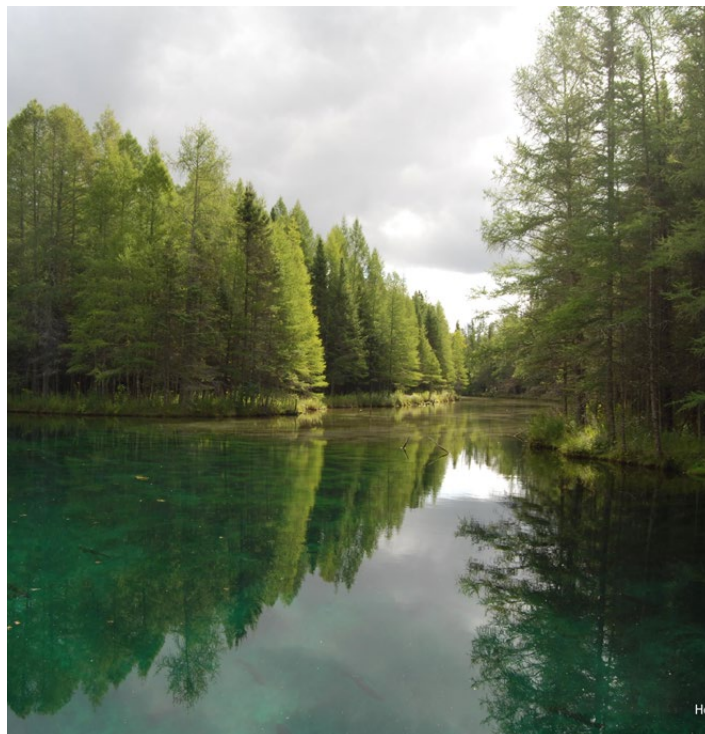
The shoreline of Indian Lake

4.3 Primitive Zone

The primary purpose of the Primitive Zone is the protection of natural resources and natural processes. The zone is managed for low-impact recreational experiences in a primitive, natural landscape. Only dispersed, self-reliant, and low-frequency use is allowed. Attaining and maintaining a high-quality natural resource condition dictates the extent to which recreational improvements or uses are allowed. This zone covers 63% of the park and includes wetland areas which are sensitive and not suitable for development.

Natural Resources

- Native species and natural processes take precedence over visitor accommodation.
- Native Michigan natural communities/ecosystem components and processes are maintained, restored and protected.
- Human-caused habitat fragmentation is eliminated.
- Non-native species are controlled or eliminated.
- Natural hydrology is maintained or restored.
- Vegetative management is only allowed to restore and maintain natural ecological structure and processes (such as removal of invasive species), and to manage pests and disease.
- Where agricultural fields currently exist, a strategy should be developed to bring these areas into compliance with the intent (nature/character) of the zone.
- New agricultural fields may be allowed but only as a specific and limited phase of an Ecological Restoration



A view of the creek from the spring to Indian Lake

Plan or as a critical component of a plan for managing species of greatest conservation need.

- Haying may be used as a short-term vegetation management treatment.
- Prescribed fire is allowed to mimic natural disturbance or control invasive species.

Cultural Resources

- Archaeological resources are preserved.
- Ethnographic resources are protected.
- Extant historic structures may be preserved, but more often are removed or allowed to molder in place.

Recreation Opportunities

- Recreation is dispersed.
- Self-reliant, non-mechanized (no bicycle, horse, or motorized use) outdoor activities (e.g., hiking, backpacking, primitive camping, cross-country skiing, hunting/trapping/fishing, nature observation).
- Trail density is low. Trail routes are point to point and not sinuous in design. Trails are single track and natural surface (except as needed to protect the resource), although existing two-tracks may be allowed to remain.

Education Opportunities

- Primarily off-site.
- Interpretive signage is allowed at trail heads and at overlooks.

Visitor Experience

- Low visitor to visitor encounters.
- Visitors are engaged in high solitude, off-trail or trailed, self-reliant outdoor activities.
- High time commitment.
- High challenge and adventure.
- Discovery area with minimal on-site interpretation.
- Low noise tolerance.
- Low interaction with DNR staff.

Management Focus

- Maintain low-impact character of the zone, with emphasis on natural resource quality.

Development

- Very low level for visitor accommodation (e.g., foot trails).
- Site hardening only allowed to protect sensitive resources (e.g., boardwalk).
- Little evidence of human activity

4.4 Backcountry Zone

The character of this zone is natural, with minimal evidence of human impact through recreational use. While the Primitive Zone is highly restrictive for recreational use and human impact, this zone allows for slightly increased use, including bicycle and equestrian use as appropriate, and modifications of the landscape (e.g. trail development) to accommodate that use. This zone covers 21% of the park and includes forested upland areas of the park outside of the main day-use area.

Natural Resources

- Natural resources may be modified slightly to support visitor use, but tolerance for natural resource impacts for visitor accommodations is low.
- Native Michigan natural communities/ ecosystem components and processes are maintained, restored and protected.
- Human-caused habitat fragmentation is minimized.
- Non-native species are controlled or eliminated.
- Natural hydrology is maintained or restored.
- Vegetative management is only allowed to restore and maintain natural ecological structure and processes (such as removal of invasive species), and to manage pests and disease.
- Where agricultural fields currently exist, a strategy should be developed to bring these areas into compliance with the intent (nature/character) of the zone.
- New agricultural fields may be allowed but only as a specific and limited phase of an Ecological Restoration Plan or as a critical component of a plan for managing species of greatest conservation need.
- Haying may be used as a short- or long-term vegetation management treatment but the goal is native ecosystems.
- Prescribed fire is allowed to mimic natural disturbance or control invasive species.

Cultural Resources

- Archaeological resources are preserved.
- Ethnographic resources protected.
- Extant historic resources are preserved, rehabilitated, removed, or allowed to molder in place.

Recreation Opportunities

- Moderate levels of recreation compatible with the natural character of the zone.
- Visitors engaged in non-motorized outdoor activities in diverse land and water natural settings (e.g. hiking, backpacking, backcountry camping, bicycling, horseback riding, canoeing, kayaking, fishing, hunting/trapping, nature observation, cross-country skiing, and snowshoeing).
- Trails are more point to point than sinuous in design. Trail purpose is viewing and access more than challenge.

Education Opportunities

- Interpretive signage at trail heads, on the trail, and at overlooks is allowed.
- Moderate off-site interpretation.

Visitor Experience

- Moderate visitor to visitor encounters.
- Visitors engaged in non-motorized outdoor activities in diverse land and water natural settings.
- High time commitment.
- Moderate challenge and adventure.
- Discovery area with minimal on-site interpretation.
- Low noise tolerance.
- Low interaction with DNR staff.

Management Focus

- Maintain low-impact character of the zone, with emphasis on natural resource quality.

Development

- Low level of development to support visitor access to outdoor activities (e.g. trails, trailhead parking, marked routes, designated backcountry campsites, vault toilets, water pumps) and educational opportunities.
- Development shall be unobtrusive and blend with natural environment.
- Site hardening (e.g. boardwalks, fencing, pedestrian paths) may be necessary to protect sensitive resources.



A cedar forest surrounds the spring

4.5 Developed Recreation Zone

The Developed Recreation Zone supports active recreation with high density of use conducted in areas not designated for natural resource significance. In this zone, recreation dominates with natural resource attributes enhanced as possible. This zone is approximately 4.75 acres, or just over 1%, of the park and includes the main day-use area with the parking lot, concession/gift shop, restroom, picnic area, walkway to the springs, and the boat launch.

Natural Resources

- Natural resources may be actively managed and modified to support visitor activities.
- Water quality is maintained or restored.
- Vegetative management will address hazard trees, invasive species, and pests and disease, and will also be allowed to facilitate development, recreational use, and to maintain an aesthetically appealing landscape. Native vegetation is still emphasized. PRD's tree planting standards should be followed in this zone.

Cultural Resources

- Archaeological resources are preserved.
- Ethnographic resources are protected.
- Extant historic resources may be preserved, restored, or adaptively used to support visitor activities, operational or educational purposes.

Recreation Opportunities

- High levels of recreation activity in a highly structured environment.
- Visitors engaged in activities in diverse natural and modified land and water settings (e.g., hiking, modern and semi-modern camping, bicycling, horseback riding, boating, canoeing, kayaking, fishing, hunting/trapping, cross-country skiing, snowshoeing, snowmobiling, day use beach, swimming, picnicking, disc golf, and other day use activities where people congregate).
- Except in areas with Exemplary Natural Communities, trails may be sinuous to provide for recreational challenge. Multi-use linear trails are allowed in this zone.

Education Opportunities

- Interpretive signage may be provided at campgrounds, day use facilities, boating facilities, registration buildings, trail heads, on the trail, and at overlooks.
- Active programming at campgrounds and other areas where people congregate.

Visitor Experience

- High visitor to visitor encounters accommodated.
- Visitors engaged in activities in diverse land and water settings for recreation and education.

- Variable time commitment.
- Variable challenge and adventure.
- Variable level of exertion.
- High noise tolerance.
- High interaction with DNR staff.
- High accessibility.

Management Focus

- Maintain use of zone in accordance with PRD's mission.
- Management of people.
- Public safety.
- Protection of resources.
- Public accessibility.

Development

- High level of development of facilities for support of visitor activities (e.g., modern restrooms, walkways and parking, trails, benches, picnic tables, picnic shelters, modern and semi-modern campgrounds, modern cabins and shelters) for recreation and educational opportunities.
- Site hardening (e.g., boardwalks, fencing, surfaced pedestrian paths) as necessary to protect sensitive resources and provide accessibility.
- Strive for universal access in all new developments.



The park concession/store hosts a popular ice cream shop



Behind the park store is an administrative area for the park (under construction)

4.6 Administrative Services Zone

This zone encompasses the developed areas required for program administration and operations. Typically, it will include offices, contact stations, maintenance facilities and all related land base required to conduct the business of running a state park or park. This zone covers 4.2 acres (roughly 1%) of the park and includes the service area behind the concession/gift shop and the drain field.

Natural Resources

- Natural resources may be actively managed and modified to support administrative and support activities.
- Vegetative management (primarily tree removal for safety) is allowed.

Cultural Resources

- Cultural resources and structures are preserved, adapted, or rehabilitated to support administrative activities.
- Historic structures should be re-purposed before new construction where possible.
- Non-utilized or non-stabilized structures may be removed.

Recreation Opportunities

- None

Education Opportunities

- Person-to-person contact at park headquarters for general information, both verbally and written (brochures, maps, etc.).
- Informational kiosk.

Visitor Experience

- Business and information only.
- High noise tolerance.
- High accessibility.

Management Focus

- The business of running a park.
- Appropriate facilities for staff, equipment, and materials.
- Employee safety.
- Public access to office.

Development

- High level of development of facilities for support of administrative activities (e.g., office space, meeting rooms, employee locker room, employee eating area, shop space, storage space and related)
- Provide maximum level of accessibility for public.

4.7 Scenic Overlay

The Scenic Overlay recognizes that there are aesthetic qualities to be preserved and protected in our state park and recreation areas. Examples of this zone include scenic views, such as the overlook escarpment at the Lake of the Clouds in Porcupine Mountains Wilderness State Park, or linear components such as a scenic road or a scenic river. In this park, the Scenic Overlay is applied over the waters of the spring and covers 0.8 acres of the park.

Natural Resources

- Natural resources may be modified slightly to support visitor use and viewing, but tolerance for natural resource impacts is low.
- Human-caused habitat fragmentation is minimized.
- This zone will reflect natural processes, with vegetative management to restore and maintain natural ecological structure and processes (such as removal of invasive species), and to manage pests and disease. Vegetation may also be managed to enhance observation of the views of the zone.

Cultural Resources

- Archaeological resources are preserved.
- Ethnographic resources are protected.
- With the scenic values in mind, extant historic resources may be preserved, restored, allowed to molder in place, or adaptively re-used for operational or educational purposes. Non-historic structures that do not contribute to the Scenic Zone may be removed.

Recreation Opportunities

- Moderate levels of recreation compatible with the purpose of viewing.

Education Opportunities

- Interpretive signage at key viewing points, trail heads, overlooks, and parking areas.
- Moderate off-site interpretation.

Visitor Experience

- High visitor to visitor encounters accommodated.
- Visitors engaged in transit or sightseeing activities by foot, car, bicycle, watercraft, or other conveyance.
- Moderate time commitment.
- Moderate noise tolerance.
- Variable interaction with DNR staff.
- High level of accessibility at vantage points.

Management Focus

- Maintain the quality of the views on which the zone is based.
- Public safety.
- Ensure all activities or developments in this zone are compatible with the overriding purpose of view quality.

Development

- Moderate level of development to support visitor access, transit, interpretive activities, and sightseeing (e.g. roads, trails, parking, restrooms, overlooks, small picnic areas, interpretive media).
- Development blends with the natural and cultural environment.
- Site hardening (e.g. boardwalks, barriers, fencing, surfaced pedestrian paths) to protect sensitive resources and provide accessibility.



Yellow fall colors adorn the trees on either side of the channel to Indian Lake

4.8 Cultural Landscape Overlay

This zone addresses the overall cultural setting of a site, including historic structures and ethnographic sites. For example, a location associated with a particular cultural resource, such as an abandoned mine townsite representative of a bygone era, would qualify as a Cultural Landscape Zone. The Cultural Landscape Zone is applied as an overlay (sub-set) of the management zones in this park, and as such, the guidance for the underlying zones will also apply. The cultural landscape overlay is applied over the entire park.

Natural Resources

- Prescriptive description of the underlying zone will apply.

Cultural Resources

- Resources may include historic buildings, structures, and other landscape characteristics and features which represent the evolution of the cultural resource, temporal change, and the continuum of time.
- Cultural resources are preserved or rehabilitated for visitor understanding and/or for compatible adaptive use by DNR or partners.
- Historic structures may be adaptively used for operational uses or educational purposes or preserved simply for their historic value.

Recreation Opportunities

- Visitors engaged in sightseeing, recreational, and educational activities in a cultural setting (e.g. automobile, bicycle, walking, hiking tour), compatible with and sensitive to the setting.
- Recreation opportunities as allowed by the underlying zone designation.

Education Opportunities

- Interpretive signage may be used at trail heads, on the trail, overlooks, and other points of interest.
- Moderate off-site interpretation.

Visitor Experience

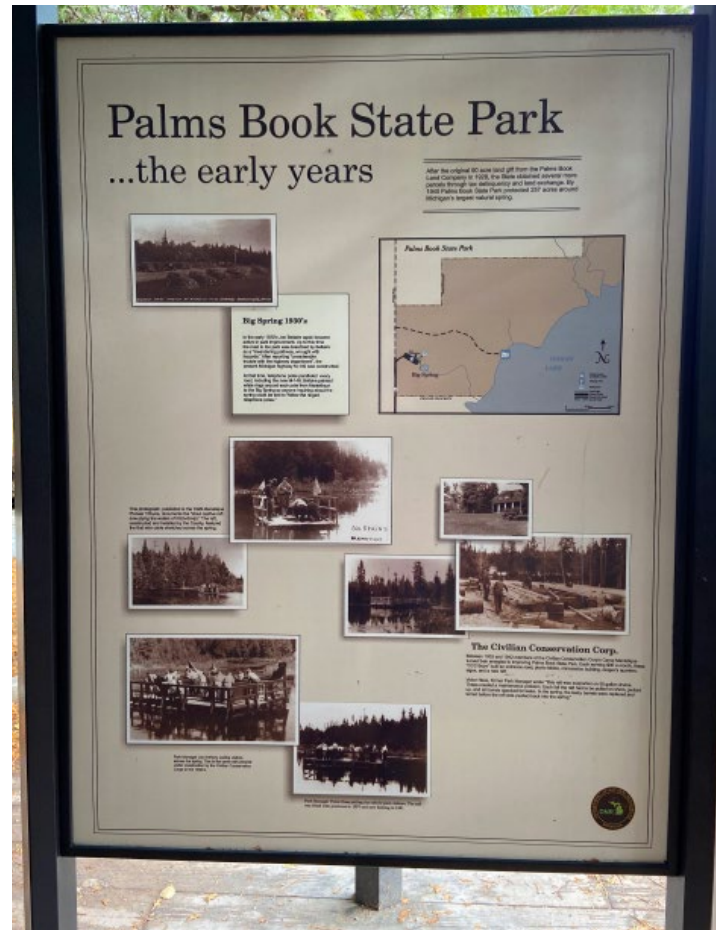
- Visitor experience varies in accordance with the underlying zone.

Management Focus

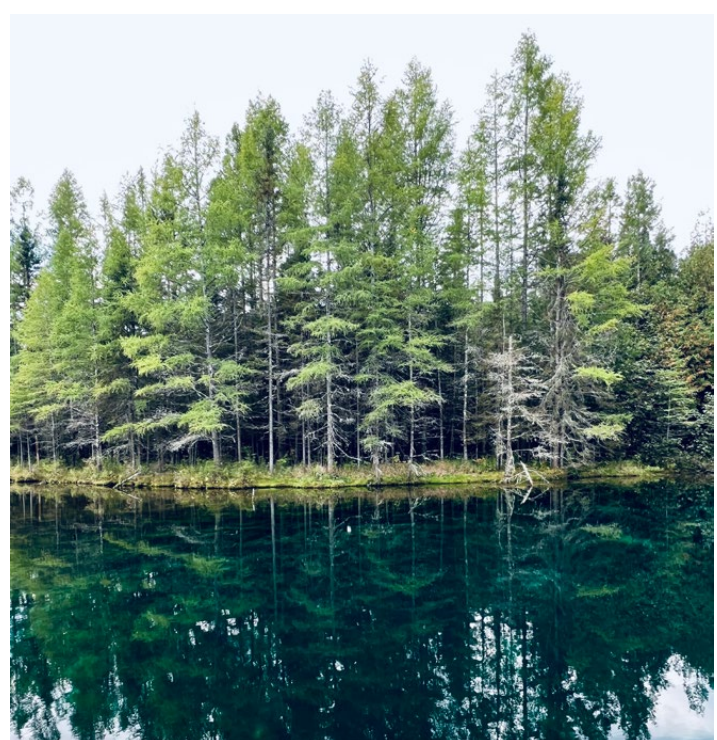
- Maintain cultural character of the zone, and if a sub-set of a resource zone, maintain emphasis on natural resource quality.
- Keep development consistent with the zone.

Development

- Non-historic development and activities that do not conflict with the cultural landscape are tolerated.
- Level of development consistent with the underlying zone.



An interpretive sign shows photos of the park's history



Trees cast their reflections into the spring



An aerial photo of the raft floating in the spring with brilliant yellow fall color throughout the trees

Photo credit: DNR Photo Ambassador Kris Kolomack

Chapter Five:

Ten-Year Action Plan

5.1 Current Issues and Opportunities

Overview

Palm Book State Park currently faces several key issues that contribute to the need for long-range planning and action. These include:

- The number of annual visitors to the park has dramatically increased in recent years. As the capacity of the raft and spring viewing experience is limited, wait times for the raft can be long.
- Parking capacity at the site is limited, especially for larger vehicles, such as RVs, tour buses and vehicles with trailers. There is currently no designated on-site parking for these larger vehicles or off-road vehicles (ORVs).
- Increased visitation has led to negative impacts on the natural landscape, such as peeling bark from trees and visitors straying from established trails.
- The current park infrastructure, such as the restrooms, septic system, and well, were not built for the level of use the park is currently experiencing. This has caused issues with the restrooms being inoperable.
- The raft mechanics are aging, and the raft often needs calibration or repair.

- Day-use facilities at the park, such as picnic and playground equipment, are outdated.
- The currently provided interpretation of the site and the legends that surround it are not considered representative of, or authentic to, Anishinaabek knowledge and should be updated in collaboration with stakeholder Tribes.
- Administrative facilities such as the contact station and storage facilities are considered outdated and inadequate.

5.2 Palms Book State Park Ten-Year Action Plan

The planning team has developed a 10-year action plan that it believes includes actions necessary to guide management and development within Palms Book State Park to achieve the desired resource protection and user experience. Action items are recommended that address natural resources, cultural resources, recreation opportunities, education/interpretation opportunities, and development. Any future improvements will be considered in the context of efficiency, environmental sustainability and resiliency. These actions apply either to the whole park or to specific locations within the park, as

appropriate, and according to the management zone. Refer to the zone descriptions in Chapter Four for appropriate activities in each zone.

Management plans do not guarantee future funding to achieve the actions identified but are based on funding realities and sound investment policies. PRD will seek internal funding, alternative funding sources, partnerships and other potential mechanisms for implementing the desired future conditions defined in this plan. On an annual basis, PRD districts determine priorities for project planning and project capital outlay. Each district's top projects are then evaluated at a state-wide level for available funds. Some projects are also funded by the American Rescue Plan Act (ARPA), which provided \$250 million in federal relief programming for critical state park and trail infrastructure through the Building Michigan Together Plan, signed into law in March 2022. Federal funding conditions require these projects to be completed by the end of 2026.

Action items are prioritized based on health, safety, and welfare, as well as ease of implementation (cost, ability to implement with own staff, partnerships, etc.). Priority Level 1 projects indicate those that should be addressed within the next 2 years. Priority Level 2 projects include those that should be addressed within 3-5 years. Priority Level 3 projects are desired but can be tackled in the next 6-10 years once funding has been identified. Some action items are intended to continue throughout the plan time frame and are an "ongoing" priority. Opinion of probable costs have been developed for each capital outlay action item identified (see Appendix C), and these projects will be included in the statewide master project list. The following tables outline the actions planned for the next ten years. In the program input column, the bolded party is the program lead.



A park visitor stands on the dock at the Indian Lake boat launch

Management and Operations

The following actions relate to the management and operations of the park.

ACTION	PRIORITY	MANAGEMENT ZONE	PROGRAM INPUT FROM
Continue to work proactively to develop and implement measures to prevent, detect and control invasive species in collaboration with local entities as appropriate.	Ongoing	All	Stewardship Park Manager Lake to Lake CISMA
Continue to explore land acquisition of properties within the Project Boundary.	Ongoing	All	Park Manager Lands Liaison
Work with others to provide visitor use information to spread use more equitably and avoid peak times.	Ongoing	All	Park Manager PRD Communications Staff Friends of Indian Lake and Palms Book State Parks
Complete a natural resource stewardship plan for the state park, identifying targets for conservation and related natural resource management strategies, including invasive species management.	1	All	Stewardship Park Manager
Revise the Wildlife Conservation Order to change the boundary of land open to hunting to only that which is north of Fishingsite Road.	1	All	Park Manager Regulatory Unit Manager Law Enforcement Division Wildlife Division
Gather and analyze information related to the wait times and carrying capacity of the park and develop an implementation strategy.	1	All	Regional Planner Park Manager ARPA Consultant
Review, update, and add to interpretive opportunities both on- and off-site, such as tribal significance of the area and oral language history.	2	All	Park Manager Marketing and Outreach Stakeholder Tribes Michigan History Center Archaeologist
Revise the spelling of Kitch-iti-kipi to G'chi-dikibi per tribal consensus in all DNR materials and other signage. Work with MDOT and other appropriate entities to update wayfinding signage and other materials.	2	All	Park Manager Marketing and Outreach MDOT DNR Tribal Liaison DNR Archaeologist
Work with the Forest Resources Division to exchange lands west of Sawmill Road to facilitate expansion of Palms Book State Park parking areas.	1	None	District Supervisor Park Manager Regional Planner Lands Liaison Forest Resources Division

Infrastructure & Development: Capital Outlay

The following actions are larger projects that require the use of capital outlay funds.

ACTION	PRIORITY	MANAGEMENT ZONE	PROGRAM INPUT FROM
Complete the septic field upgrade.	1	Administrative Services Zone	Regional Planner Park Manager
Rehabilitate the raft system, considering alternative spring viewing opportunities. (ARPA) ¹	1	Developed Recreation	Regional Planner Park Manager
Enhance and redevelop the parking lot system and provide a detached RV/ORV parking area. (ARPA) ¹	1	Developed Recreation	Regional Planner Park Manager
Construct a new well.	1	Developed Recreation	Regional Planner Park Manager
Construct a new storage building.	3	Administrative Services Developed Recreation	Regional Planner Park Manager
Construct a new contact station.	3	Developed Recreation	Regional Planner Park Manager

Infrastructure & Development: Small Projects

The following action items are funded through the Small Projects funding source.

ACTION	PRIORITY	MANAGEMENT ZONE	PROGRAM INPUT FROM
Update the day-use picnic facilities to ensure functionality and accessibility.	2	Developed Recreation	Park Manager

1. American Rescue Plan Act of 2021



A restroom at the main parking lot of Palms Book State Park

Chapter Six:

Implementation Strategy

This chapter of the general management plan (GMP) provides guidance for implementation of the action plan and maintaining the plan so it remains relevant in the long term. These guidelines will also help the park align the action plan with park, district and statewide annual funding processes and annual tasks outlined in the Parks and Recreation Division's Strategic Plan or other planning documents. Although the implementation of the GMP will require commitment from staff at every level, it will be the primary responsibility of the Unit Supervisor/Manager to oversee plan implementation.

A long-range plan such as this must maintain a degree of flexibility in order to be responsive to changing circumstances or opportunities that cannot be foreseen. It is recognized that some actions may be accomplished in a short time frame, while others may carry over through multiple years. It will be important to track progress so that the plan remains a relevant park management tool. The GMP will be reviewed every five years to ensure it remains viable.

All proposed changes in the park should be reviewed to ensure they are in compliance with the approved Management Zones.

6.1 Implementation Toolbox

The following is a list of items to consider when reviewing and prioritizing the implementation of Action Plan identified in the GMP.

Coordination/ Communication

- Meet regularly with the Regional Field Planner and District Supervisor to coordinate and prioritize large capital projects for capital outlay requests.
- Maintain an open dialogue with local partners and stakeholders to coordinate community-related projects as identified in the Action Plan.
- Follow-up regularly on progress for Action Plan that are not the primary responsibility of the Unit Supervisor with the responsible program position.

Funding

- Estimated costs for capital outlay projects are included in the Opinion of Probable costs section. These costs should be refined and adjusted by the Regional Field Planner as designs and studies are completed.
- Identify potential funding sources for each project/task. Liaise with PRD grants coordinator as appropriate.
- Align potential funding sources with the annual capital outlay funding requests.
- Request District Small Project funding through the District Supervisor for small projects identified in the 10-year Action Plan.

Scheduling

- Further prioritize projects based on need, funding, staffing and other constraints and opportunities.
- Incorporate project/task assignments into annual staff performance objectives

6.2 Documentation of Changes

The Unit Supervisor should keep a record of any major changes to the park since approval of the GMP and note potential updates that may be required in the future. Documenting these changes will assist in the five-year plan review or when the GMP is updated. Changes may include:

- New user requests or conflicts
- Emerging recreation, funding or partnership opportunities
- Changes in land management
- Land transactions or changes to the Approved Project Boundary
- Major infrastructure projects or removal of structures

Changes may be documented by marking up the park's copy of the GMP or maintaining a log that is kept with it. In reviewing the Action Plan for changes, documentation should be provided for action items that may become irrelevant or are no longer viable, as well as proposed new Action Plan, including justification.

The management zoning map should also be reviewed regularly. Any proposed changes to the map related to land acquisition or disposal, errors in the original zoning, or land management changes should be documented. Note that the park zoning is intended to be a long-term document: changes will only be considered with adequate justification and are subject to a formal review and approval process.



A boardwalk with railings leads to the spring

6.3 Documentation of Accomplishments

As Action Plan are completed, the Unit Supervisor should mark them as such in the park's copy of the GMP, including the completion date. This will also help to maintain a log of accomplishments for district and division-wide reporting purposes, including PRD's strategic plan.

6.4 Five-Year Review Process

General management plans are reviewed every five years from the date of approval of either the Phase 2 plan or the complete GMP. The planning team for the five-year review is made up of the Park Management Plan Administrator, Unit Supervisor, Regional Field Planner and District Supervisor, with other team members included as may be necessary. A Five-Year Review Form will be used to record all changes to the plan within the past five years. Upon reviewing the GMP and the documented changes, the planning team will determine whether the changes warrant a complete update of the plan.

If there are no major changes required in either the zoning or the Action Plan, the planning team will complete the Five-Year Review Form and attach it as a supplement to the existing GMP. If zoning changes are needed, the GMP will be revised or updated following the complete GMP planning process led by the Park Management Plan Administrator. If changes to the Action Plan only are required, the Phase 2 GMP planning process will be implemented.



Visitors ride the raft across the spring

Park Profile

ITEM	DESCRIPTION
AREA	388
COUNTY	Schoolcraft
TOWNSHIP	Thompson
LATITUDE	46.005075
LONGITUDE	-86.382715
ADDRESS	Sawmill Rd, Manistique, MI 49854
PHONE	(906) 341-2355



Appendix A: Supporting Analysis

A.1 Park Overview

Palms Book State Park is located on the northwest shores of Indian Lake, in the south-central area of Michigan's Upper Peninsula. The main attraction of this state park is Kitch-iti-kipi (Big Spring), a large, natural spring. The water temperature of the spring is 45 degrees Fahrenheit year-round and flows at a rate of 10,000 gallons per minute. The state park offers the opportunity for visitors to board an observation raft to get a closer look at Kitch-iti-kipi's crystal clear waters and bubbling spring. The park also features a boat launch on Indian Lake, the Upper Peninsula's fourth-largest lake, and just over 100 acres of the park is open to hunting. Kitch-iti-kipi, accurately spelled G'chi-dikibi in modern Anishinaabemowin, and the area of Palms Book State Park have a rich Native American heritage.

Location & Community

Palms Book State Park is located in Thompson Township, Schoolcraft County, about 12 miles northwest of downtown Manistique. The park is 8 miles north of US-2, a major east-west route across the Upper Peninsula. Following US Hwy 2

westbound and then traveling north on M-149, the park is on Co Hwy 455. The city of Manistique is on Lake Michigan at the mouth of the Manistique River and features a lighthouse, pier, harbor, restaurants and bars, and hotels. The Manistique area is known for its natural scenery, four seasons of outdoor recreation, and numerous historical landmarks. The park is adjacent to the state forest land and the boundary of the Hiawatha National Forest.

Palms Book State Park is administered out of Indian Lake State Park, which is comprised of two units on the west and south shores of Indian Lake (3 miles and 7 miles from Palms Book, respectively). Indian Lake State Park features modern and semi-modern camping, a swimming beach, boat launch and picnic area.

A.2 Demographics

According to the U.S. Census Bureau, Schoolcraft County had an estimated population of 8,030 in 2021, which is the fourth least populated county in the state. This is down 0.2% from 2020. The county is largely rural and forested, with much of its western portion within Hiawatha National Forest. This

results in a low population density of just 6.9 people per square mile, compared to an average of 178.0 in the State of Michigan. Almost one-third of housing units are reported to be for seasonal, recreational, or occasional use.

Several factors stand out in the county's demography. The American Indian population is noticeably higher than the state average: 9.2% in Schoolcraft County compared to 0.7% in Michigan as a whole. This reflects the area's history and impacts the culture of the region. The county has a higher percentage of people over the age of 65 and less children under the age of 18 than the state average. Also, 17.1% of people in the county under the age of 65 reported having a disability, compared to 10.2% in Michigan as a whole. Less people in Schoolcraft have a bachelor's degree compared to the state. Additionally, the median and per-capita income are notably lower in this area as well.

A.3 Regional Recreation Resources

The area around Palms Book State Park provides a variety of recreation opportunities and public land. The following resources can be found within 50 miles of the park.

Federal Recreation Resources

- **Pictured Rocks National Lakeshore** is approximately 50 miles north of the state park along Lake Superior. Pictured

Rocks is known for its beautiful sandstone cliffs, waterfalls, and pristine beaches. Boating tours provide opportunities to view the cliffs from Lake Superior, and recreation opportunities include camping, backpacking and over 100 miles of trails.

- **Hiawatha National Forest** touches three of the five Great Lakes (Superior, Huron, and Michigan) and covers nearly one million acres of land in the Upper Peninsula. The vast national forest offers extensive four-season recreational activities, including trails, camping, cabins, hunting and fishing.
- **Seney National Wildlife Refuge** was established in 1935 as a breeding ground for migrant birds and to preserve habitat for other wildlife and is located 45 miles north of Palms Book State Park. The refuge is 95,238 acres, including 25,150 acres of the Seney Wilderness Area. This area also contains the Strangmoor Bog National Natural Landmark.
- **Grand Island National Recreation Trail** is a 40-mile hiking trail that parallels the Whitefish River following the approximate route of an ancient Ojibwe Indian portage between Lake Superior and Lake Michigan. The trail is 40 miles east of Indian Lake.
- **Grand Island National Recreation Area** is located in Lake Superior about one-half mile offshore from Munising and is accessible via passenger ferry. The recreation area offers scenic views, bike and foot trails, cabins and camping opportunities, cultural sights and kayaking around the

POPULATION QUICKFACT	SCHOOLCRAFT CO.	MICHIGAN
Population estimates, July 1, 2021	8,030	10,050,811
Population estimates base, April 1, 2020	8,047	10,077,331
Population, percent change	-0.2%	-0.3%
Persons under 5 years, percent	4.4%	5.5%
Persons under 18 years, percent	17.5%	21.4%
Persons 65 years and over, percent	28.3%	18.1%
Female persons, percent	49.9%	50.4%
White alone, percent	86.4%	79.0%
Black or African American alone, percent	2.9%	14.1%
American Indian and Alaska Native alone, percent	9.2%	0.7%
Asian alone, percent	0.2%	3.4%
Two or More Races, percent	3.8%	2.7%
Hispanic or Latino, percent	1.5%	5.6%
White alone, not Hispanic or Latino, percent	85.3%	74.2%
Language other than English spoken at home, percent of persons age 5 years+, 2016-2020	2.1%	9.7%
High school graduate or higher, percent age 25+, 2016 – 2020	89.7%	91.3%
Bachelor's degree or higher, percent age 25+, 2016 – 2020	18.9%	30.0%
With a disability, under age 65 years, percent, 2016-2020	17.1%	10.2%
Median household income (in 2017 dollars), 2016- 2020	\$48,443	\$59,234
Per capita income in past 12 months (in 2020 dollars), 2016 – 2020	\$27,936	\$ 32,854
Persons in poverty, percent	11.9%	13.1%

shoreline. The main trail on the island is 20 miles long, goes around the entire perimeter of the island, and offers many views and exploration stops.

State Recreation Resources

State Parks and Recreation Areas

- **Indian Lake State Park** (566 acres) offers modern and semi-modern camping in two separate units. Located on Indian Lake, there is a swimming beach, boat rentals, paddle sports, and a boat launch, along with two miles of hiking trails.
- **Fayette Historic State Park** (711 acres) features more than 20 historic buildings from a 19th-century industrial town. Recreation and education opportunities include a visitor's center and self-interpretive tour of the townsite, modern campground, modern lodge, harbor slips, boat launch, beach, 5 miles of trails, and scenic views.
- **Wagner Falls Scenic Site** is located approximately 50 miles north of Palms Book State Park. The main attraction of this scenic viewing site is a waterfall from Wagner Creek, which flows into a shallow gorge containing Anna River.

State Forest

The region contains many acres of state forest land comprised of three forest management units (FMUs). State forest land is co-managed by the DNR Forest Resources and Wildlife divisions managed by the DNR for timber and dispersed public recreational pursuits, such as hunting, fishing, wildlife viewing and dispersed camping. Campgrounds and trails within the state forest are managed by the Parks and Recreation Division.

- **Shingleton FMU** is about 380,000 acres of land stretching through Schoolcraft and Alger counties and into eastern Delta County and the Garden Peninsula. The Shingleton FMU contains a large amount of lowland, often associated with streams and rivers. A deer wintering complex, a Grouse Enhanced Management Site, and special conservation areas are found in this unit. Much of the area is remote, without roads. Recreation opportunities include hunting, trapping, fishing, and ORV-riding.
- **State Forest Campgrounds (SFCG)**
 - Mead Creek SFCG (managed by Indian Lake SP) 6 miles southwest of Germfask, offers 10 rustic camp sites on the Manistique River with water access for small watercraft and fishing.
 - Merwin Creek SFCG (managed by Schoolcraft County) 9 miles northwest of Gulliver, offers 10 rustic camp sites and access to the Manistique River for fishing and boating.
 - Portage Bay SFCG (managed by Fayette Historic State Park) 3 miles south of Garden offers 23 rustic camp sites and access to Lake Michigan and the 2.7-mile Ninga Aki Pathway.
 - Fox River SFCG (managed by Indian Lake SP) 5 miles

northwest of Seney offers 7 rustic camp sites on a forested bluff along the Fox River with access to quality fishing and hiking on the Fox River Pathway.

- East Branch of Fox River SFCG (managed by Indian Lake SP) 8 miles north of Seney offers 19 rustic sites with access to the Fox River, known for its wild brook trout fishery, scenery, history and recreational values.
- Cusino Lake SFCG (managed by Indian Lake SP) 24 miles northeast of Shingleton,, (managed by Indian Lake SP) offers 6 rustic sites with opportunities for paddle sports and fishing on 140-acre Cusino Lake.
- Canoe Lake SFCG (managed by Indian Lake SP), located 18.3 miles northeast of Shingleton, offers 4 rustic sites with opportunities for paddle sports and fishing and nearby access to snowmobile and ORV trails.
- Ross Lake SFCG (managed by Indian Lake SP), located 22 miles northeast of Shingleton, offers 10 rustic sites with opportunities for paddle sports and fishing.
- South Gemini Lake SFCG (managed by Indian Lake SP) located 16.8 miles northeast of Shingleton and less than 10 miles from Pictured Rocks National Lakeshore, offers 17 rustic sites with opportunities for paddle sports, fishing, and hiking on the 1.5-mile Gemini Lake Pathway.
- North Gemini Lake SFCG (managed by Indian Lake SP) located 20 miles northeast of Shingleton and about 5 miles from Pictured Rocks National Lakeshore, offers 8 rustic sites with opportunities for paddle sports, fishing, and hiking on the 1.5-mile Gemini Lake Pathway.

State Forest Wildlife Areas

- **Rainey Wildlife Area** is a 100-acre site bordering Smith Creek, Smith's Slough, and Indian Lake. It includes hiking trails, boardwalks, and an elevated observation platform. There are no modern facilities and the area offers a peaceful immersion into nature with great opportunities to view wildlife.
- **Garden Grade Grouse Enhanced Management Site (GEMS)** is 7,000 acres at the top of the Garden Peninsula largely covered by aspen. This area is specifically managed for ruffed grouse and other young forest dependent wildlife. There are over 14 miles of hunter walking trails and numerous wildlife openings which offer bountiful small game hunting opportunities as well as bird watching and hiking during non-hunting seasons.

State Fish Hatchery

- **Thompson State Fish Hatchery** is located 1.5 miles north of the intersection of US-2 and M-149, near the town of Thompson. The hatchery produces a variety of species including Chinook salmon, steelhead, muskellunge, and walleye. It also has an interpretive area where visitors can learn about the importance of small tributaries to the Great Lakes, how watersheds work, and how a hatchery operates.

State and Regional Trails

The area surrounding Palms Book State Park contains a number of different trail systems.

- Indian Lake Pathway is located on the west side of Indian Lake and provides 8.5 miles of trail for hiking, biking and cross-country skiing.
- The bicycle route of the Iron Belle Trail is a 791-mile linear trail from Belle Isle in Detroit to Ironwood in the Upper Peninsula. The route runs along US-2, just a few miles south of Indian Lake.
- The Haywire Grade Trail is a 32-mile rail-trail from Manistique in the south to Shingleton in the north and is designated both as a Pure Michigan Trail and a heritage trail. It was the state's first rail-trail, opened in 1970, and follows the route of the old Manistique and Lake Superior Railroad. The Haywire Grade is open to all motorized and non-motorized uses.
- The Moss Lake Motorcycle Trail (26 miles) is located about 25 miles east of Palms Book State Park.
- The Marquette-Manistique Route allows for ORV and ATV use. The trail runs north-south along State Highway 94 until it reaches Munising, where the trail then heads east-west along State Highway 28.
- There are a number of snowmobile routes in the area surrounding the park. Route UP2 generally runs east to west across the Upper Peninsula. UP2, UP7, UP41, UP413, and UP 411 are all snowmobile trails which surround Palms Book State Park.
- Bruno's Run, located in the Hiawatha National Forest, offers a 13-mile loop for hikers and bikers. It runs along the Indian River along with a number of small lakes and streams.
- Valley Spur Trail System, located in the Hiawatha National Forest, offers 27 miles of groomed Nordic (cross-country) ski trails in the winter and 20 miles of single-track biking/hiking trails in the summer months. This area connects to the North Country National Scenic Trail.
- Ninga Aki Pathway has a trailhead at the Portage Bay State Forest Campground and provides a total of 2.7 miles of hiking and cross-country ski trails. Part of the trail runs along the Lake Michigan shoreline.

Municipal Parks and Recreation

- **City of Manistique Lakeshore Campground** offers over 50 modern and rustic campsites on Lake Michigan.
- **Manistique Marina** is located at the south end of Cedar Street, on the Manistique River. It operates from Memorial Day weekend through Labor Day weekend and provides several boating slips with water and electrical hookups available for rent by the day, week, month, or season.
- **Carl D. Bradley Lakeview Memorial Park** (Formerly Lakeview Park) on the shore of Lake Michigan in Manistique, features a pier, lighthouse, beach and lakefront boardwalk.

- **Manistique's Central Park** is home to a recreation center that offers a large, multi-purpose facility available year-round for functions ranging from ice hockey to weddings. It also includes a half-mile walking path around Manistique's Quarry Lake. Summer concerts, soccer and baseball fields, sledding, tennis and basketball courts, archery, horseback riding, and the county fair are all hosted here.
- **Rapid River Falls**, an 80-acre park off of US Highway 41 in northern Delta County, is frequently used as a stop for travelers between Escanaba and Marquette. Locals use it for picnics and gatherings, including outdoor weddings. The river has several small rapids within it.
- **Thompson Rogers Roadside Park** is located on US-2, 4 miles south of Indian Lake. This park provides opportunities for swimming, walking, picnicking, and kayaking.

Water Recreation

Recreational boating facilities and opportunities exist along the Big and Little Bay De Noc in Delta County. Over 200 miles of shoreline on Lake Michigan provides campgrounds, public access, recreational harbors, and picnic areas for guests. The following boating access sites are managed out of Indian Lake State Park:

Boating Access

SITE NAMES	DESCRIPTION
Thompson Creek	Carry-down launching area for car top boats and canoes only
McDonald Lake	Hard surface ramp able to accommodate most trailerable watercraft
Dodge Lake	Hard surface ramp able to accommodate most trailerable watercraft
Ashford Lake	Carry-down launching area for car top boats and canoes only
Seul Choix Pointe	Hard surface ramp able to accommodate most trailerable watercraft.
Manistique River	Gravel surface ramp suitable for medium-sized and smaller boats only. 6 parking spaces available. Leased to the City of Manistique.
Merwin Creek State Forest Campground	Gravel surface ramp suitable for medium-sized and smaller boats only. 10 parking spaces available.

Source

The Indian River Canoe Trailhead at Fish Lake is approximately 36 miles northwest of Manistique and about 15 miles south of Munising. The Indian River from Fish Lake to Indian Lake, a total of almost 36 miles, offers excellent paddling with many access points and several campgrounds along the route.

Schoolcraft County has an abundance of pristine lakes, rivers and bays for fishing.

Private Recreational Areas

There are a several private campgrounds and resorts located directly on the shores of Indian Lake.

- **Resorts and Campgrounds** – there are several private resorts and campgrounds located around Indian Lake.
- **Commercial Forest Land** – the Commercial Forest program provides a property tax incentive to private landowners to retain and manage their forestland for long-term timber production and to provide foot access to the public for hunting and fishing. Thousands of acres in Schoolcraft County are enrolled in this program.

There are also a number of hotels, motels and rental properties in and around Manistique. Several golf courses and the Kewadin Casino in Manistique are other attractions in the area.

Historic Places

- **Bishop Baraga Historical Site**, on the east side of Indian Lake, commemorates the many missions founded by Baraga in northern Michigan. The shrine includes a chapel, Indian dwellings and buildings recreated in the early 1980's on the original mission's site based on historical information.
- **Manistique Light and Boardwalk** is at the mouth of the Manistique River. Built in 1916, this lighthouse is listed on the National Register of Historic Places. The boardwalk is two miles long on the Lake Michigan shoreline.
- **Schoolcraft County Historic Park** contains an historic 200-ft-tall brick water tower constructed in 1922 and a museum. The tower is listed on the National and State historic registers.
- **Seul Choix Point Lighthouse Park and Museum** is owned by the Department of Natural Resources and operated by the Gulliver Historical Society. The lighthouse, completed in 1895, is both a Michigan Historic Site and a National Historic Landmark. The museum displays how it would have looked from 1900-1930.
- **Nahma** was an historic lumbering/sawmill community established by the Bay de Noquet Company in 1881. The large brick and steel burner, used to dispose of waste from the sawmill, is an iconic landmark that remains today. The Nahma Township Historical Society operates a museum open on weekends during the summer.
- **Thompson Christmas Ship Site** marker was erected in 2006 by Michigan Historical Commission-Michigan Historical Center (Marker Number S696). The site explains the history of one of the last schooners on the great lakes.

A.4 History of Palms Book State Park

History of the Area

Anishinaabek, meaning Original People, have lived in the Great Lakes Region since time immemorial. Kitch-iti-kiapi, accurately spelled G'chi-dikibi in modern Anishinaabemowin, and the area of Palms Book State Park have a rich Native American history and remain significant to Great Lakes Anishinaabek. Anishinaabe ancestors settled all along the upper Great Lakes and lived by hunting, fishing, and harvesting. Travel and trade connected local communities with other communities along the lakeshore and beyond.

The first Europeans believed to have visited the area were members of the French explorer Jean Nicolet's expedition party. In 1670, Rene Robert de La Salle reportedly visited the area aboard the Griffin sailing ship. In 1833, Father Frederick Baraga established his first Catholic Mission on the eastern shore of Indian Lake. At this mission, he converted local Anishinaabek to Catholicism. After this, Father Baraga went on to continue his missionary work but frequently returned to the Mission Church at Indian Lake. In 1853, he became the bishop of Sault St. Marie. Today, Baraga Park marks where Father Baraga held his first mass. By the 1850s, Anishinaabe residents settled around Indian Lake, once called M'O'Nistique Lake, in log cabins at the mouth of the Manistique River.

The 1836 Treaty of Washington between the Anishinaabek people and the U.S. ceded northern lower Michigan and the eastern portion of the Upper Peninsula to the United States, including what is now Schoolcraft County. The treaty was signed in Washington by Henry Schoolcraft, Indian Commissioner of the United States, for whom the county is named. Henry Schoolcraft explored the area with the expedition of Lewis Cass. The Odawa and Ojibway Tribes successfully fought against removal of Native Americans that occurred following the 1836 Treaty and secured their claims to land in northern Michigan through the 1855 Treaty of Detroit.

Schoolcraft County was founded in 1843 and officially



An early raft created to go onto the water (c. 1890)

organized in 1871, with the City of Manistique as the county seat. The county was largely settled as a result of the lumber boom, beginning in the 1880s. Manistique was the largest mill town in the area, its development driven by the logs transported down the Manistique River, which were then shipped from the town's harbor.

After the area was logged, large swaths of land were drained and sold for farming. However, the land was not very productive, and much was abandoned and reverted to the state or federal government for non-payment of taxes. Forested lands now make up about two-thirds of the county and this public land supports the recreation and tourism that has become a major economic factor in the area.

History of the Park

On June 8, 1849, Algernon Merryweather came across the spring while conducting the original survey for the General Land Office of the U.S. Government, noting *"West end of arm of Lake is a spring 450 links in diameter. Water 4 ½ fathoms deep from which proceeds a large brook."* Early photographs document tourism at the site in the late 1890s, at which time Manistique was a bustling mill town. Initially, visitors would cross Indian Lake and then hike to the Kitch-iti-kipi. Later, a narrow-gauge railroad was installed to transport visitors from Thompson to the Kitch-iti-kipi. Originally, people built their own rafts to go out onto the water. Through the years, the raft evolved to include a "viewing well" and various methods of moving it around, including being pulled by a rowing boat.

John I. Bellaire, a local businessman, found the spring completely full of lumber and workers' trash and immediately

wanted to clean it up and restore its natural beauty. He prompted a deal with the Palms Book Land Company to sell 90 acres of the land around the spring to the state for \$10 to preserve the area as a state park. The purchase was completed in 1928. The deed stipulated that the land *"to be forever used as a public park, bearing the name Palms Book State Park."* John I. Bellaire lived in Manistique and would advertise the spring there. He sold water and sand from the spring at his five-and-dime store claiming they had magical powers. Bellaire was instrumental in the construction of the present-day highway M-149 to provide easier access to the park.

Between 1933 and 1942, members of the Civilian Conservation Corp's (CCC) Camp Manistique made park improvements. The CCC built an entrance road, picnic tables, concession building and ranger's quarters. Additionally, the CCC built a new raft to take visitors across the spring, guided by a cable.

After the original 90-acre land gift, the state obtained several more parcels through tax delinquency and land exchange. By 1940, Palms Book State Park protected 257 acres around Michigan's largest natural spring, eventually expanding to its current day 388 acres.

Further development has taken place since the CCC constructed the original buildings. In 1950, a toilet building was constructed (currently being used for storage) and electric service was extended into the park. In 1970, a storage/workshop building was built, followed by a contact station in 1975. The concession building was constructed in 1982, and a new toilet building was added in 2015.



A larger raft created in 1910 with the Knights of Pythias aboard

A.5 Land Ownership

Funding Sources

The state acquired the lands encompassed by Palms Book State Park through a variety of funding sources. Often, conditions attached to the original funding source or other details of the property transaction encumber the future use or disposition of the land. The funding source map at the end of Appendix A identifies the sources used in acquiring land within Palms Book State Park. The following outlines in more detail each funding source associated with the park

Special Legislation- Public Act (P.A.) 17 of 1921 allowed for land to be transferred to the new Department of Conservation.

- The initial 90 acres of the park 90 acres was purchased (for \$10) from Palms Book Land Co. under special legislation in 1928.

Land Exchange- P.A. 193 of 1911 authorized the state to acquire land through private exchange deeds.

- The State acquired 50.75 acres from Russell Watson in 1940 as part of an exchange for lands.
- 80 acres were acquired as part of a larger land exchange with the Federal Government in 1980

Tax Reversion- The state acquired the balance of the land through tax reversion due to non-payment of taxes. These lands are identified as unshaded areas on the Funding Source map.

- 167.9 acres of Palms Book State Park was acquired through tax reversion in 1926 and 1939.

Mineral Rights- The DNR owns 100% of mineral rights within the park.

Easements

The following easements grant access or construction rights on Palms Book State Park property. The documentation was obtained through the Michigan Land Ownership Tracking System and may not be complete.

- An easement was granted in 1959 for a highway between the Country Rd and the lake to provide a public fishing access site.
- Wisconsin Electric Power Company (1953) to install overhead electric lines.
- Michigan Transportation Commission (1953) for a highway.
- GTE North Incorporated (1953) for telephone cables and lines.

Agreements

Concession contract-

- Big Springs Souvenir, LLC, for a concessions and souvenir shop in Palms Brook State Park.

Memorandum of Understanding-

- Friends of Indian Lake and Palms Book State Parks to provide a framework for a collaborative working relationship.

A.6 Legal Mandates

For all park general management plans, legal mandates are identified that serve to further guide the development of the general management plan and subsequent action plans. For our planning purposes, the term “Legal Mandates” refers not only to federal and state law, but also the administrative tools of “Policy” and “Directive” of the Natural Resource Commission, the Department, and the Parks & Recreation Division. Examples include Orders of the Director, Park and Recreation Areas State Land Rules and all other laws, commission orders, and rules or directives that apply to the park. Specific to Palms Book State Park, the following legal mandates have been identified.

Federal Statute

Endangered Species Act, 1973

This Act authorizes the determination and listing of species as endangered and threatened, and prohibits unauthorized taking, possession, sale and transport of endangered species.

Bald and Golden Eagle Protection Act, 1940 and Amendments

This Act prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald eagles, including their parts, nests, or eggs. The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." "Disturb" includes actions that may result in injury to the eagle, a decrease in its productivity or nest abandonment.

National Historic Preservation Act, 1966 As Amended

This is the primary federal law governing the preservation of cultural and historic resources in the United States. The law establishes a national preservation program and a system of procedural protections which encourage the identification and protection of cultural and historic resources of national, state, tribal and local significance. Projects that receive federal support in any form may be subject to compliance with Section 106 of the NHPA to ensure that impacts on historic properties are considered and that any adverse effects are avoided, minimized or mitigated.

Americans With Disabilities Act Of 1990, As Amended

This federal civil rights legislation prohibits discrimination and guarantees that people with disabilities have the same opportunities to participate in the mainstream of American life. It includes standards for accessible design that sets the minimum requirements for newly designed or altered State and local government facilities, public accommodations, and commercial facilities to be readily accessible to and usable by individuals with disabilities.

Natural Wild and Scenic Rivers Act 1968, As Amended

The National Wild and Scenic Rivers System was created by Congress in 1968 (Public Law 90-542; 16 U.S.C. 1271 et seq.) to preserve certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations. The Indian River was designated as scenic (12 miles) and recreational (39 miles), for a total of 51 miles, from Hovey Lake to Indian Lake in 1992.

State Statute - Natural Resources and Environmental Protection Act (NREPA) and Amendments

SECTION	DESCRIPTION
A 451 OF 1994, PART 5	Gives the DNR authority to make rules to support its mission. This includes State Land Rules, Land Use Orders, Wildlife Conservation Orders, Fisheries Orders and Watercraft Control.
PA 451 OF 1994, PART 31 WATER RESOURCES PROTECTION	Provides authority to EGLE to require a permit for any occupation, construction, filling, or grade change within the 100-year floodplain of a river, stream, drain, or inland lake.
PA 451 OF 1994, PART 301 INLAND LAKES AND STREAMS	Requires a permit from the state (EGLE) to undertake certain activities relating to inland lakes and streams, such as dredging, fill, marinas, structures, alteration of flow, etc.
PA 451 OF 1994, PART 303 WETLANDS PROTECTION	Requires a permit from the state (EGLE) to undertake certain activities in regulated wetlands, such as, dredging, fill, construction or drainage.
PA 451 OF 1994, PART 419: HUNTING AREA CONTROL	Section 324.41901 establishes the powers of the Department to establish safety zones for hunting.
PA 451 OF 1994, PART 741 STATE PARK SYSTEM	The department shall create, maintain, operate, promote, and make available for public use and enjoyment a system of state parks to preserve and protect Michigan's significant natural resources and areas of natural beauty or historic significance, to provide open space for public recreation, and to provide an opportunity to understand Michigan's natural resources and the need to protect and manage those resources.

State Statute - Natural Resources and Environmental Protection Act (NREPA) and Amendments, Continued

SECTION	DESCRIPTION
PA 35 OF 2010, PART 741 RECREATION PASSPORT	This act amended the Michigan Motor Vehicle Code to provide for a State Park and State-operated public boating access site "Recreation Passport" that a Michigan resident may obtain by paying an additional fee when registering a motor vehicle.
PA 451 OF 1994, PART 761 ABORIGINAL RECORDS AND ANTIQUITIES	The state reserves the exclusive right and privilege to all aboriginal records and other antiquities including those found on the bottomlands of the Great Lakes.

Orders

The following Orders apply to Palms Book State Park:

LAND USE ORDERS OF THE DIRECTOR

Order 5.1 State parks and recreation areas, certain conduct prohibited.

Order 5.1 A person shall not do any of the following in any state park (SP) or recreation area (RA):

(5) Operate an unmanned aircraft in conflict with the unmanned aircraft system act (PA 436 of 2016), and as follows:

(e) Upon or over the platform at Palms Book SP.

5.12 Certain state parks and recreation areas, requirements for use, certain conduct prohibited.

Order 5.12 The following conduct shall apply to use of Michigan SPs and RAs:

(2) Palms Book SP, prohibited conduct. A person shall not do any of the following at palms book SP:

(a) Swim, bathe, skin or scuba dive, fish, boat, enter, place or launch any object in the big spring, Kitchitiki, palms book SP.

(b) Use the department owned raft on the big spring for anything other than viewing.

5.16a Entry, use and occupancy of certain state parks, recreation areas and scenic sites, prohibited conduct.

Order 5.16a (1) A person shall not do any of the following:

(1) A person shall not do any of the following:

(a) Enter any of the following state-owned lands with a motor vehicle unless a valid Michigan recreation passport has been purchased and affixed to the vehicle:

(62) Palms book SP, Schoolcraft county

WILDLIFE CONSERVATION ORDERS

Wildlife is owned by all the people of the state of Michigan, and protection is administered and managed by the Michigan DNR. Hunting and trapping regulations including methods of take, bag limits, license quotas, and season dates are established by the Natural Resources Commission (NRC) and are described in the Wildlife Conservation Orders.

7.8 Palms book state park; hunting and trapping allowed.

Sec. 7.8 Hunting and trapping shall be allowed during the established seasons on all state-owned lands in the N 1/2 of section 25, T42N R17W, and on lot 2 in the NW 1/4 of section 30, T42N R16W, within Palms book state park.

History: Eff. Mar 31, 1989; Am. 2, 2021, Eff. Mar. 12, 2021.

STATE LAND RULES

Parks and Recreation Areas – State Land Rules are issued by authority conferred on the Michigan DNR by Section 504 of PA 451 of 1994 MCL 324.504. The rules cover entry, use and occupation of state lands and unlawful acts.

A.7 Landscape Context and Natural Resources

The “Regional Landscape Ecosystems of Michigan, Minnesota and Wisconsin”, written by Dennis Albert in 1995, divided the landscape into smaller units based on local climate, landforms (usually of glacial origin), soil, and vegetation—not jurisdictional boundaries. This analysis is “foundational” in that it is a starting point for many conservation-related decisions. Such an integration of climate, geology, soil, and vegetation information, alongside the human history of the land, allows ecologist planners to fulfill the important task of first understanding the natural resource conditions and then applying that knowledge to most appropriately design conservation strategies.

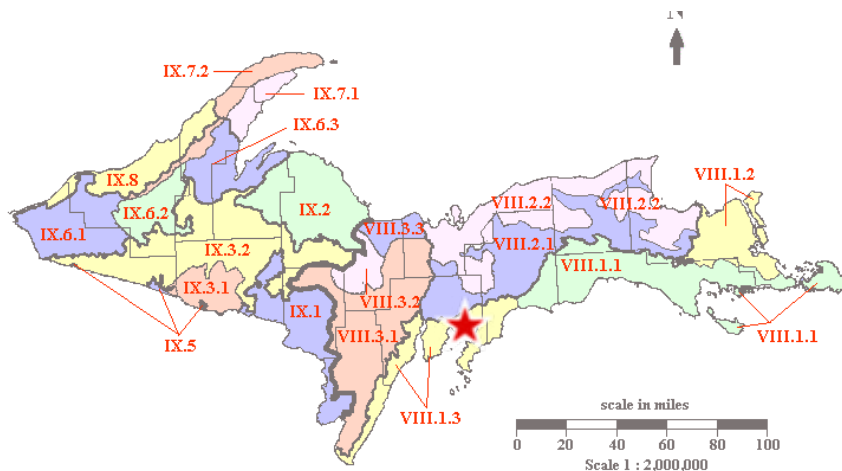
Palms Book State Park, located in the Escanaba-Door Peninsular sub-subsection, (VII.1.3) is characterized by a milder climate than adjacent sub-subsections. Geologically, the area contains Niagaran series dolomite and limestone bedrock. Landforms include sand lake plain ground moraines, and shallow lakes that were former Lake Michigan bays, now separated from Lake Michigan by low beach-ridge and swale microtopography. Soils range from excessively drained sands on old beach ridges to poorly drained sands between beach ridges, stony loamy sands on upland moraines and organic hydric soils in lowland areas. Vegetation is mostly forest, ranging from lowland conifer to upland northern hardwood forest, but also includes some coastal wetlands.

Climate

The growing season is approximately 140-160 days. The average snowfall is 60 inches and the average rainfall is 30 to 32 inches. Extreme low temperatures have reached a minimum of -46.5 degrees Fahrenheit inland and -30.5 degrees on the shoreline. The average warm season is 3.4 months with an average high temperature being between 66- and 76-degrees Fahrenheit. The cold season is 3.5 months with the average low ranging from 21 to 11 degrees Fahrenheit.

Topography

Flat lakebed, deltaic deposits of sand, parabolic dune field, and shallow embayment’s containing transverse dunes are characteristic of the Escanaba/Door Peninsula sub-subsection. There is a beach-ridge and swale topography, consisting of dozens of low, linear beach ridges alternating with shallow swales. These commonly form a narrow 1 to 2-mile-wide bands along the shorelines of protected embayment’s of Lake Michigan. There are large areas which are composed of lacustrine sand deposits that are flat, regional slope is typically only 9 to 10 feet per mile.



Source: Albert, Dennis A. 1995. Regional landscape ecosystems of Michigan, Minnesota and Wisconsin: a Working Map and Classification.

Palms Book State Park is essentially flat, with much of the land wetland. The lake surface elevation is at approximately 610 feet with the land rising to 620 feet at the park entrance and along the road.

Geology and Mineral Resources

Palms Book State Park lies on the north shore of Big Springs Bay of Indian Lake. The northeast portion of the park sits on low, marshy sand plain that developed towards the end of the last glacial period as outwash from the melting ice filled some of the river valley north of the lake. The southwest half of the park is mostly upland on a ridge of Silurian-age dolomite bedrock with a thin (sometimes absent) cover of glacial sediments. Kitch-iti-iki (Big Spring) is a karst feature related to this carbonate bedrock. The nearly 50-foot-deep spring is fed by groundwater through fractures in the bedrock. In the subsurface, Kitch-iti-iki is not hydraulically connected to Indian Lake about one quarter-mile away and thus is not directly impacted by water level changes in the nearby lake.

Multiple rock quarries occur in the Manistique area, mining the dolomitic bedrock for aggregate and crushed stone. Elsewhere in the UP, the highly pure dolomite and limestone is mined for lime, cement, and fertilizer products. There is little to no potential for mineral development within Palms Book State Park.

Water Resources

The Manistique watershed drains about 1,461 square miles with most of the landcover consisting of wetlands and forests. Historical logging and subsequent wildfires in the area have contributed to shaping the vegetative landscape present today.

Palms Book State Park has over one mile of frontage (largely inaccessible due to wetlands) on Indian Lake, the fourth-largest inland lake in Michigan's Upper Peninsula with a surface area of 8,638 acres. The lake is 5.5 miles long and 3.5 miles wide. Indian Lake consists of a single basin and reaches a maximum depth of approximately 16 feet and areas <15 feet in depth constitute over 90% of the lake's surface area. The Indian River (a nationally designated wild and scenic river between Hovey Lake and Indian Lake) is the largest tributary to Indian Lake and empties into the northwest corner near Lange's Bay and exits the lake in the east. The Indian River forms the outlet and flows in a southeastern direction to the Manistique River. The lake level is maintained by a dam ("Carpenter Dam") on the Indian River approximately 1.5 miles downstream of Indian Lake. The legal lake level was set at 613.27 feet in 1945 although the dam gates are opened and the lake level is lowered 18-24 inches through the winter to protect the shoreline and residences from the effects of ice. Several creeks also feed into the lake, including Gray Duck Creek which runs through the eastern edge of Palms Book State Park. Kitch-iti-kipi is approximately 0.8 acres in size, with a depth of 40 feet, and connects to Indian Lake via a 0.4-mile-long stream.

Much of the park, except for the southwest portion, is characterized by forested/shrub wetland.

Soils

Palms Book State Park is primarily composed of poorly drained muck and mucky peat. Markey mucky peat is in the east of the park in depressions on lake plains or outwash plains. Carbondale, Lupton and Tawas soils dominate the central area of the park. The remainder of the park is Au Gres-Deford complex and Hendrie-Annianias complex (in the developed portion of the park), both with a 0-3% slope and somewhat poorly drained.

Early 1800's Vegetation

According to the General Land Office Survey (c. 1800's), subsection's the park vegetation was characterized by extensive white cedar swamps on poorly drained soils of the lakeplain, which extended inland for miles from Lake Michigan. The swamps were interrupted by narrow, low beach ridges which supported upland conifer forests. Cedar was the most commonly mentioned tree species. Tamarack or black spruce swamps were also noted as common forest types. The eastern portion of the park was a black ash swamp while the west side was a mixed conifer swamp.

Current Vegetation

There are significant differences between historic and current vegetation at these parks. Some general patterns are evident

at a landscape scale but differences become complex at the local "stand" level. After Euro-American settlement, there was intensive logging within the two parks. Post-logging fires were common throughout northern Michigan including at Indian Lake State Park where various post-logging fire-scars are evident. In general, the combination of clear-cutting, followed by intense fires in some areas, were not analogous to the disturbance regime from which the forests developed. The forests developed in numerous "pathways", which were often harvested again in some fashion during the 20th century.

For example, the history of these post-logging forests is still visible. On the upland ridges at nearby Indian Lake state park, there are a few, fire-scarred old-growth white and red pine, scattered remnants of early seral forest dominated by birch and aspen, with overstories dominated in places by eastern hemlock regenerating on the downed material of the old growth pines. Similarly, lowland areas exhibit a different but a sequential pathway nonetheless, including stands displaying old growth white cedar, cedar stumps, and conversion of some areas of cedar to other dominate trees such as balsam fir, aspen, and even maple. Today, beech bark disease complex and emerald ash borer have drastically reduced the presence of mature beech and ash trees at Palms Book State Park.

In total at Palms-Book, rich conifer swamp covers the most land area at Palms Book at 224 acres (59% of total park area), while dry-mesic forest comprises 13% of the park at 49 acres. Poor fen and mesic northern forest are found at 9% and 5% land coverage, respectively.

There are four important natural communities identified at Palms Book State Park.

Rich Conifer Swamp: 224 acres (59% of Park). The overall quality of this natural community at Palms Book State Park is very high. The forest which surrounds Kitch-iti-kipi and its outlet to Indian Lake is an exemplary patch of this natural community type. Botanists documented at least 22 understory plant species in this rich conifer swamp around Kitch-iti-kipi. Northern white cedar made up 67 % of the forest overstory here, with tamarack at 15% and paper birch, white spruce, balsam fir, black spruce and hemlock at lower levels. Northern

white cedar trees as old as 126 years were documented.

Poor Fen: 32.4 acres (9% of Park). A wetland type dominated by sedges, shrubs and stunted conifers and moderately influenced by groundwater. Botanists documented at least 23 plant species in the poor fen at Palms Book State Park. Dense Sphagnum moss, leatherleaf, sweet gale and mixed sedges/grasses are recorded at the Palms Book poor fen. In addition, moderate densities of meadowsweet, tag alder, 5 to 20 feet tall northern white cedar saplings and large cranberry are documented. A low density of Michigan holly was found.

Northern Wet Meadow: 13.8 acres (4% of park). A wetland

type influenced by groundwater and dominated by sedge and grass species. This natural community at Palms Book State Park represents an exemplary patch of northern wet meadow. Botanists documented at least 19 plant species in this area. High levels of sedge, sweet gale, meadowsweet were documented by botanists. Moderate levels of tag alder and low levels of sphagnum moss were also recorded.

Submergent Marsh – 6.6 acres (2% of park). This natural community is comprised of herbaceous plants that occur in deep to sometimes shallow water along the Indian Lake shoreline and stretches of rivers and streams.

Rare Flora and Fauna (From MNFI report and/or GIS)

The information provided in the following Table pertains to Palms Book State Park and was obtained from Michigan DNR GIS data. There has been no Michigan Natural Features Inventory report completed for Palms Book State Park at this time (other than the statewide natural communities report).

Animals

COMMON NAME	SCIENTIFIC NAME	STATE STATUS
bald eagle	<i>Haliaeetus leucocephalus</i>	special concern
Campeloma spire snail	<i>Cincinnatia cincinnatiensis</i>	special concern
Cisco	<i>Coregonus artedii</i>	threatened
lake sturgeon	<i>Acipenser fulvescens</i>	threatened
little brown bat	<i>Myotis lucifugus</i>	special concern

Plants

COMMON NAME	SCIENTIFIC NAME	STATE STATUS
sedge	<i>Carex albolutescens</i>	threatened

Natural Community Elements

NATURAL COMMUNITY	GLOBAL/STATE RANK
emergent marsh	GU/S4
northern wet meadow	G4G5/S4
poor fen	G3/S3
rich conifer swamp	G4/S3

Global Rank Key

- **G3:** Either very rare and local throughout its range or found locally (even abundantly at some of its locations) in a restricted range (e.g. a single western state, a physiographic region in the East) or because of other factor(s) making it vulnerable to extinction throughout its range; in terms of occurrences, in the range of 21 to 100.
- **G4:** Apparently secure globally, though it may be quite rare in parts of its range, especially at the periphery.
- **G5:** Demonstrably secure globally, though it may be quite rare in parts of its range, especially at the periphery.
- **GU:** Possibly in peril range-wide, but status uncertain; need more information.

State Rank Key

- **S3:** Rare or uncommon in state (on the order of 21 to 100 occurrences).
- **S4:** Apparently secure in state, with many occurrences.

Cisco has been documented in the Indian Lake. This species is listed as threatened in the state. The fish live in the deep areas of the Great Lakes, however, they can be found in shallower depths when spawning over rocky substrates which may be what attracted them to Indian Lake.

Common Loon has also been seen in the lake and is listed as state threatened which offers legal protection.

Wildlife

The park is part of a deer wintering complex (DWC). In the northern portions of the Upper Peninsula (UP) of Michigan, deer encounter deep snow which limits access to food.

Deer have adapted to deep snow conditions by migrating to find suitable food and shelter to survive the winter. A deer wintering complex is the landscape mosaic of food and cover resources used by deer in winter conditions. Stated another way, a DWC is a local area where weather, forest cover, timber harvest, past deer patterns and behavioral conditions, and ecological conditions interact, resulting in a specific local area important to deer survivorship during typical winters. Deer wintering complexes have sometimes been called "deer yards," but because there are differences or variations in accepted definitions of "deer yard", this term is not ideal for a description or for our use. A "deer concentration area"

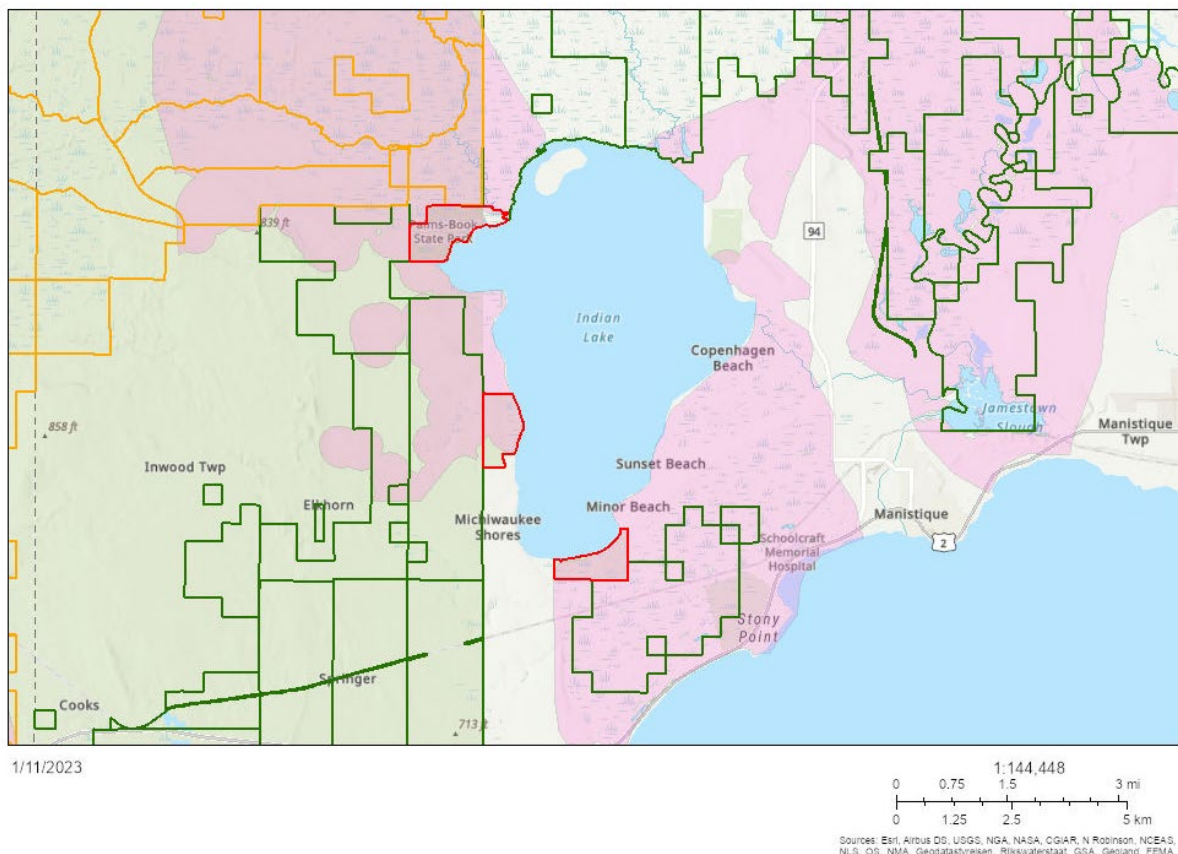
is a localized site or area where deer are found during any individual winter, and this can vary widely.

The Indian Lake Deer Wintering Complex is located in Schoolcraft County NE and NW of the city of Manistique and encompasses the majority of Palms Brook State Park. Deer survival relies heavily on this area for food and shelter in the winter, and deer use has been documented in parts of this complex by the DNR since 1937. The entire deer wintering complex encompasses 50,519 acres and is predominantly comprised of hemlock and cedar for shelter, and aspen and maple for food sources. This complex surrounds Indian Lake to the eastern and western boundaries.

Numerous game species can be found within Indian Lake State Park and surrounding areas, and include ruffed grouse, American woodcock, wild turkey, and black bear. Other frequent residents might include coyote, red fox, American marten, and otter.

Due to the close vicinity to Lake Michigan, a large variety of neotropical migratory birds can be found throughout major migration periods both within the park and outside of its boundaries.

Indian Lake DWC



A map depicting the extents of the Indian Lake Deer Wintering Complex which includes Palms Book State Park

Fisheries

Indian Lake supports a diverse fish community with 36 species documented during fisheries surveys (1928-2010) completed by DNR including lake sturgeon and cisco. Both species are listed as state-threatened species which are protected under the Endangered Species Act of the State of Michigan (Part 365 of PA 451, 1994 Michigan Natural Resources and Environmental Protection Act).

Fisheries management efforts in Indian Lake have mainly concentrated around stocking walleye to supplement modest levels of natural reproduction. Walleye stocking efforts occurring from 1934-1941, 1966-2005, and 2011 to the present while the DNR has partnered with local constituents to raise and stock walleye on a regular schedule in Indian Lake for over 20 years. Other species previously stocked were yellow perch (1930s), northern pike (1940s and 1960s) and tiger muskellunge (1970s-1980s and early 1990s). Only walleye have been stocked in Indian Lake since 1991.

Indian Lake provides popular recreational sport fisheries for yellow perch, walleye, smallmouth bass, and northern pike during open-water and winter (i.e. ice fishing) seasons. Anglers may also encounter cisco, brown trout, rock bass, and bluegill when fishing.

For many years fish have been stocked by DNR Fisheries Division in Kitch-iti-kiپی to provide viewing opportunities for the public while operating the raft. Brown trout or rainbow trout were stocked in most years from 1948 through the early 1970s. Since then, lake have been the primary species stocked and fish are sourced from the Marquette State Fish Hatchery (DNR) or the Sullivan Creek National Fish Hatchery (U.S. Fish and Wildlife Service).

A.8 Recreational Resources

Paddlesports:

Boating of any kind is prohibited by Director's Order in Kitch-iti-kiپی, but access to Indian Lake is provided by a boating access site.

Boat Launch:

A hard-surfaced ramp on Indian Lake is available for launching boats in areas of limited water depth, with a skid pier, 5 parking spaces and vault toilet.

Concession/Store:

The Palms Book Trading Post is open daily from mid-May to mid-October. Souvenirs, T-shirts, sweatshirts, books, ice cream treats, and beverages are for sale.

Picnic Area:

Picnic tables and grills are available.

Bathroom/Vault Toilet:

Modern bathrooms are available seasonally and vault toilets year-round

Playground:

Limited play equipment is found in the park

Snowmobiling:

There are no designated snowmobile trails in the park but it is open to snowmobiles when snow conditions allow.

Scenic Viewing:

A self-guided observation raft guides visitors to vantage points overlooking the spring. The raft and the trail leading to it are ADA accessible.

A.9 Cultural Resources

The park has had no comprehensive cultural resources survey to date. The presence of significant archaeological resources is unknown. A wood frame toilet building constructed in 1950 is now being used as a storage building and is not considered significant architecture.

Great Lakes Anishinaabek identify the unique spring and associated landscape as a Traditional Cultural Property significant to their heritage.

A.10 Programming and Events

Indian Lake State Park Explorer Guide provides tours and informal interpretation to visitors at Palms Book during the summer months. Tours are often scheduled in advance by motorcoach companies.

The Friends Group also hosts events at Palms Book in coordination with the Explorer Guide. Many of these events include a cultural and historic perspective of the spring, such as Native American guest presenters and storytellers.

A.11 Park Use Statistics

Day Use Numbers

In 2021, Palms Book State Park received an estimated 234,066 visits. These visitors came primarily between May and October, peaking in July with 69,360 visits. Visitor numbers have been increasing significantly, showing over 200% increase

since 2015. This has created some capacity issues at the park. Visitor numbers were manually counted prior to 2020 and were only counted when a staff member was present. In 2020, a car counter was added, and now park visit numbers are estimated from car counts multiplied by a per vehicle multiplier of 3.5. This park sells the fourth-largest number of out-of-state daily visitor permits.

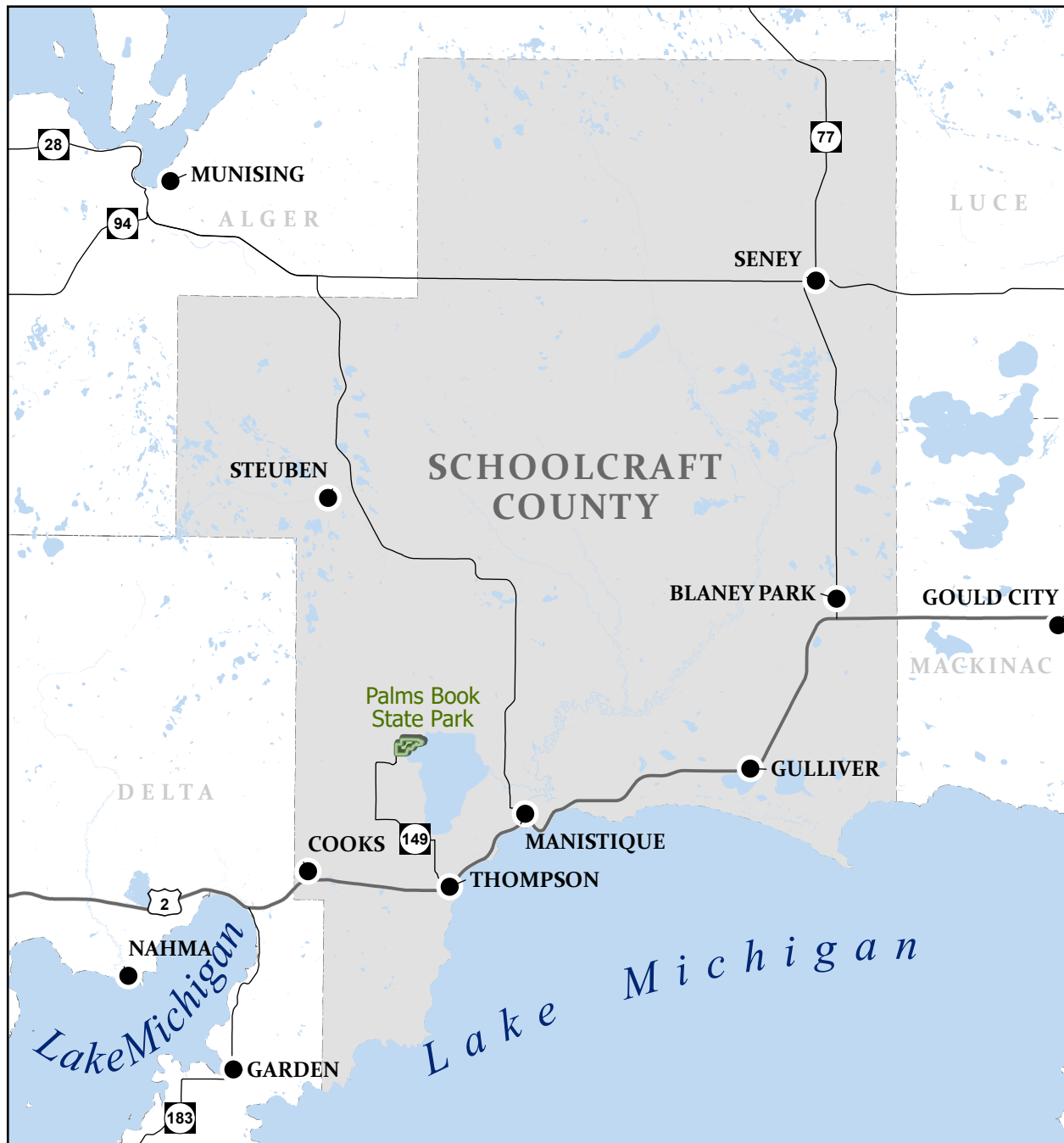
Demographics

An on-site survey conducted by Michigan State University in 2017, indicated that for distinct day visitors, only 13% had an Upper Peninsula zip code, while 65% had a Lower Peninsula zip code and the rest were from out of state, primarily Wisconsin, Illinois and Ohio. The four most common zip code origins for distinct user respondents were all in Michigan: 48879 (St. Johns); 48356 (Highland); 48911 (Lansing) and 49837 (Gladstone).

FY	2015	2016	2017	2018	2019	2020*	2021
Visitor Numbers	73,765	123,181	93,473	129,940	135,923	106,449	234,066

*visitor counts impacted by COVID-19




A.12 Park Resource Maps



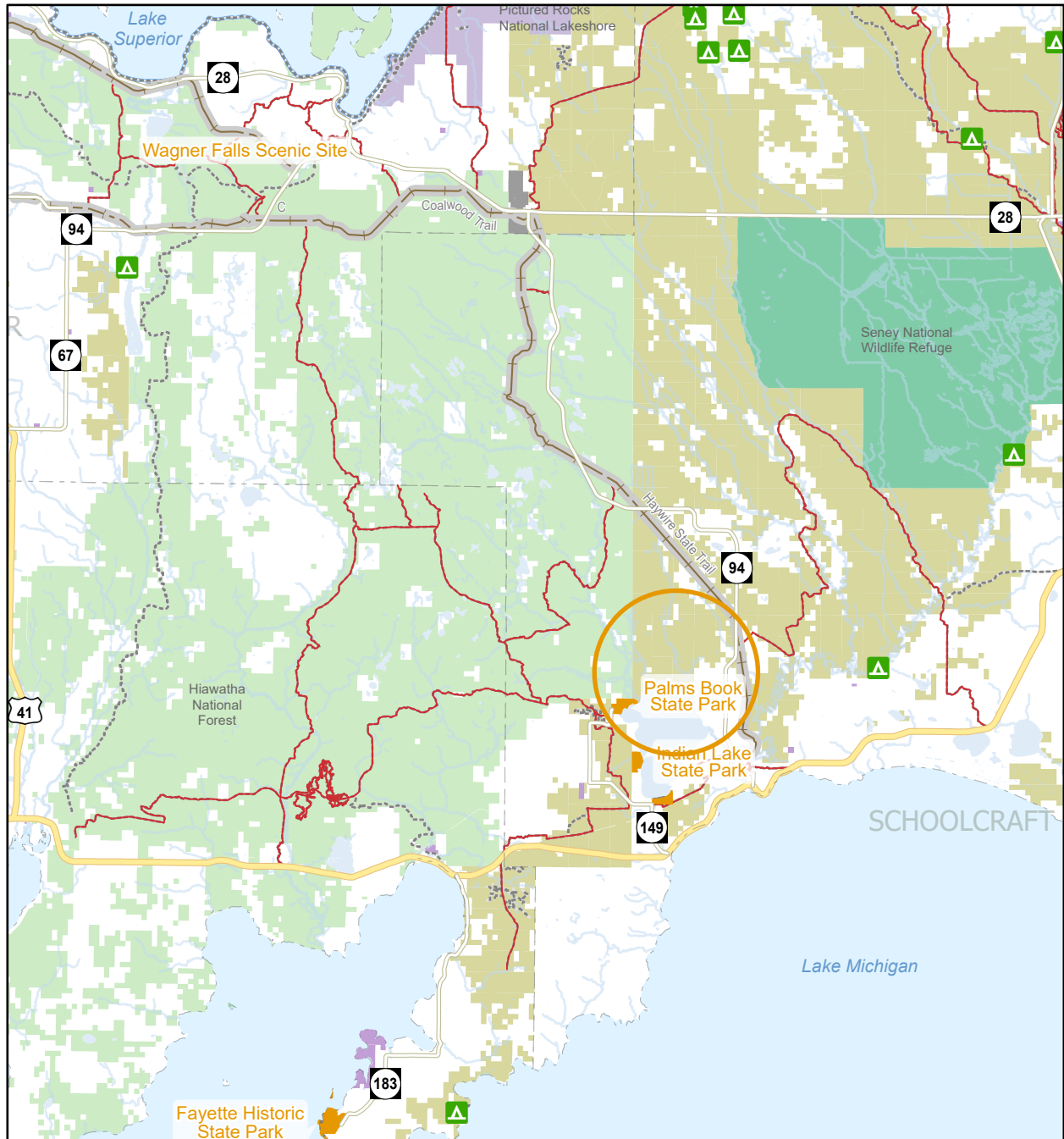
MICHIGAN DEPARTMENT OF NATURAL RESOURCES
Palms Book State Park - Regional Overview



Updated: 10/19/2022

-  County Boundary
-  Palms Book State Park
-  Waterbody





MICHIGAN DEPARTMENT OF NATURAL RESOURCES

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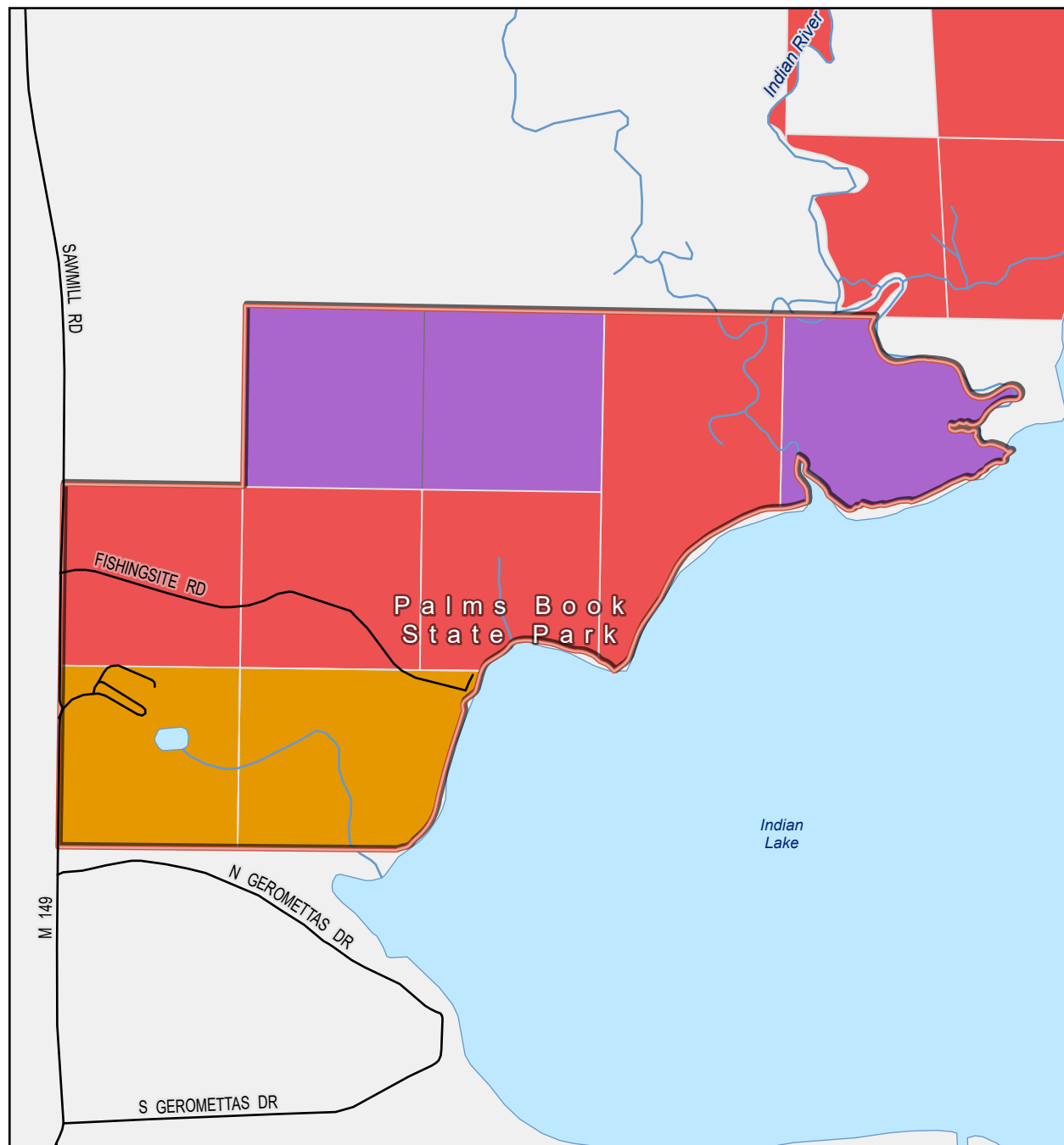
Palms Book State Park - Regional Recreational Resources



- County Boundary
- State Park/Recreation Area/ Historic Park
- State Forest
- State Game/Wildlife Management Area
- Other Conservation Lands
- Municipal/County Park
- State Forest Campground
- Non-motorized Trail
- Motorized Trail
- Railtrail
- Designated Water Trail
- US Fish and Wildlife Service
- US Forest Service
- National Park Service





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MICHIGAN DEPARTMENT OF NATURAL RESOURCES

Palms Book State Park - Funding Sources

-  State Park Boundary
-  Road
-  River/Stream
-  Lake/Pond

Funding Source

-  Special Legislation
-  Land Exchange
-  Tax Reverted Land



Updated: 12/01/2022



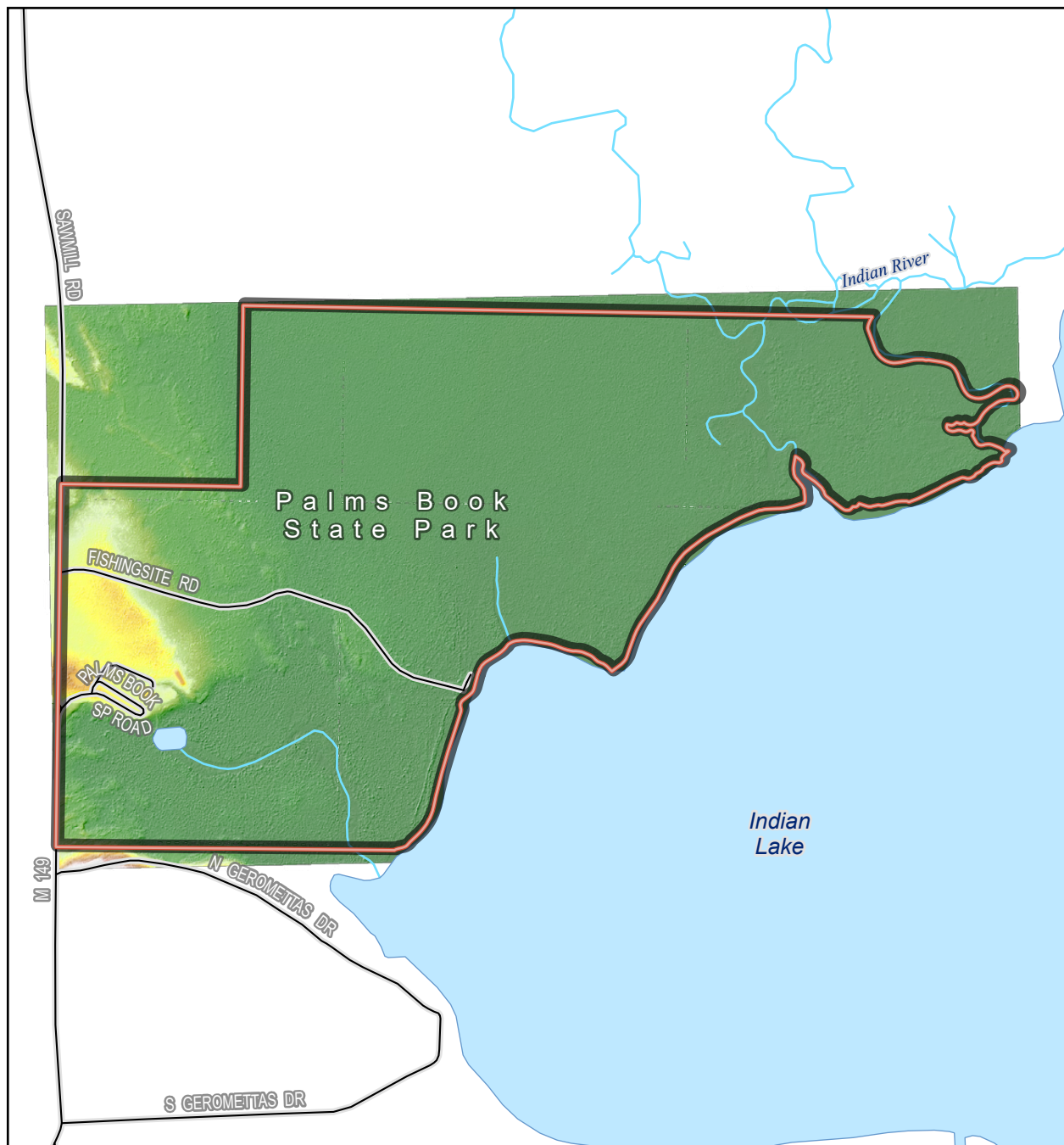
MICHIGAN DEPARTMENT OF NATURAL RESOURCES

Palms Book State Park - Ownership Rights



Updated: 09/29/2022





MICHIGAN DEPARTMENT OF NATURAL RESOURCES

Palms Book State Park - Topography



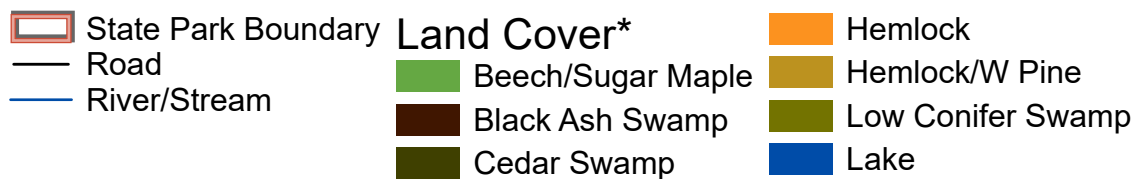
Updated: 10/18/2022

*Slope calculated from the 30 meter resolution National Elevation Dataset DEM for Michigan using Arc/Info GRID v9.0



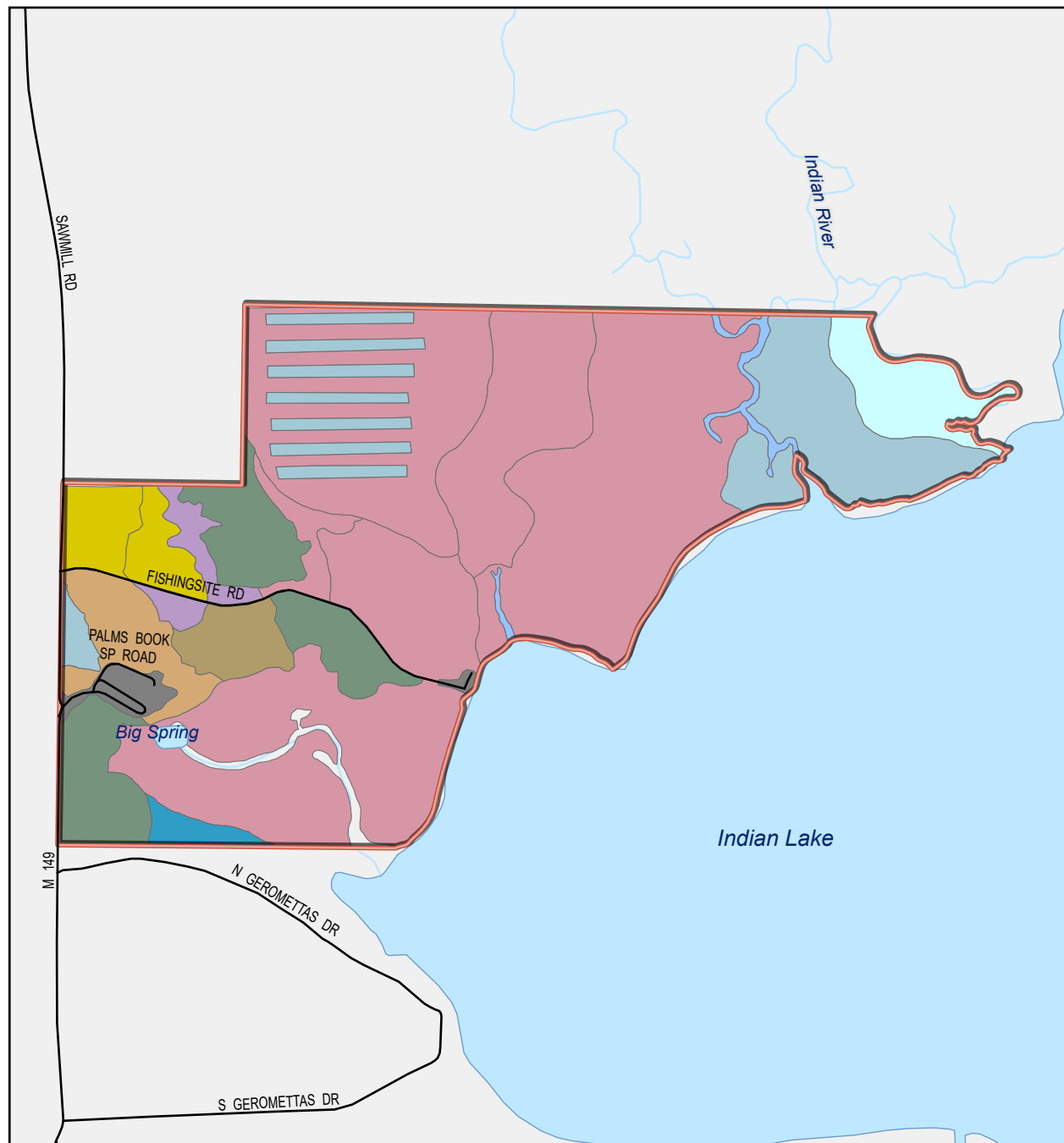
MICHIGAN DEPARTMENT OF NATURAL RESOURCES

Palms Book State Park - Land Cover, 1800s



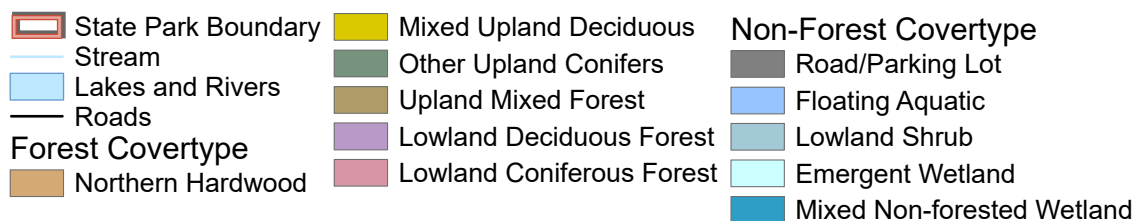
Updated: 09/23/2022

*Mapping derived from original notes of the State of Michigan General Land Office Survey conducted in the early to mid-1800s



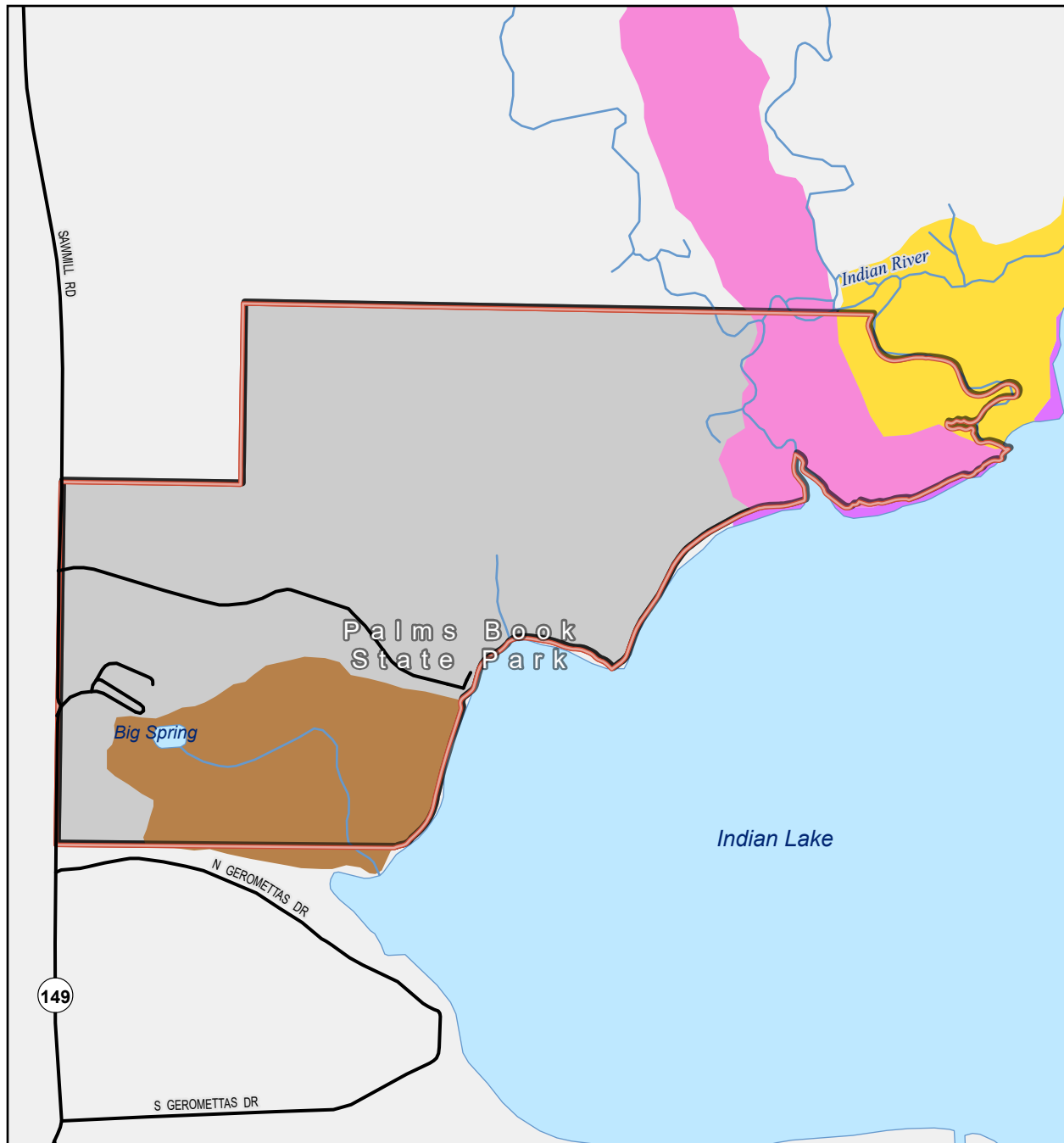
MICHIGAN DEPARTMENT OF NATURAL RESOURCES

Palms Book State Park - Land Cover



Updated: 10/19/2022
 *National Land Cover Database 2011





MICHIGAN DEPARTMENT OF NATURAL RESOURCES



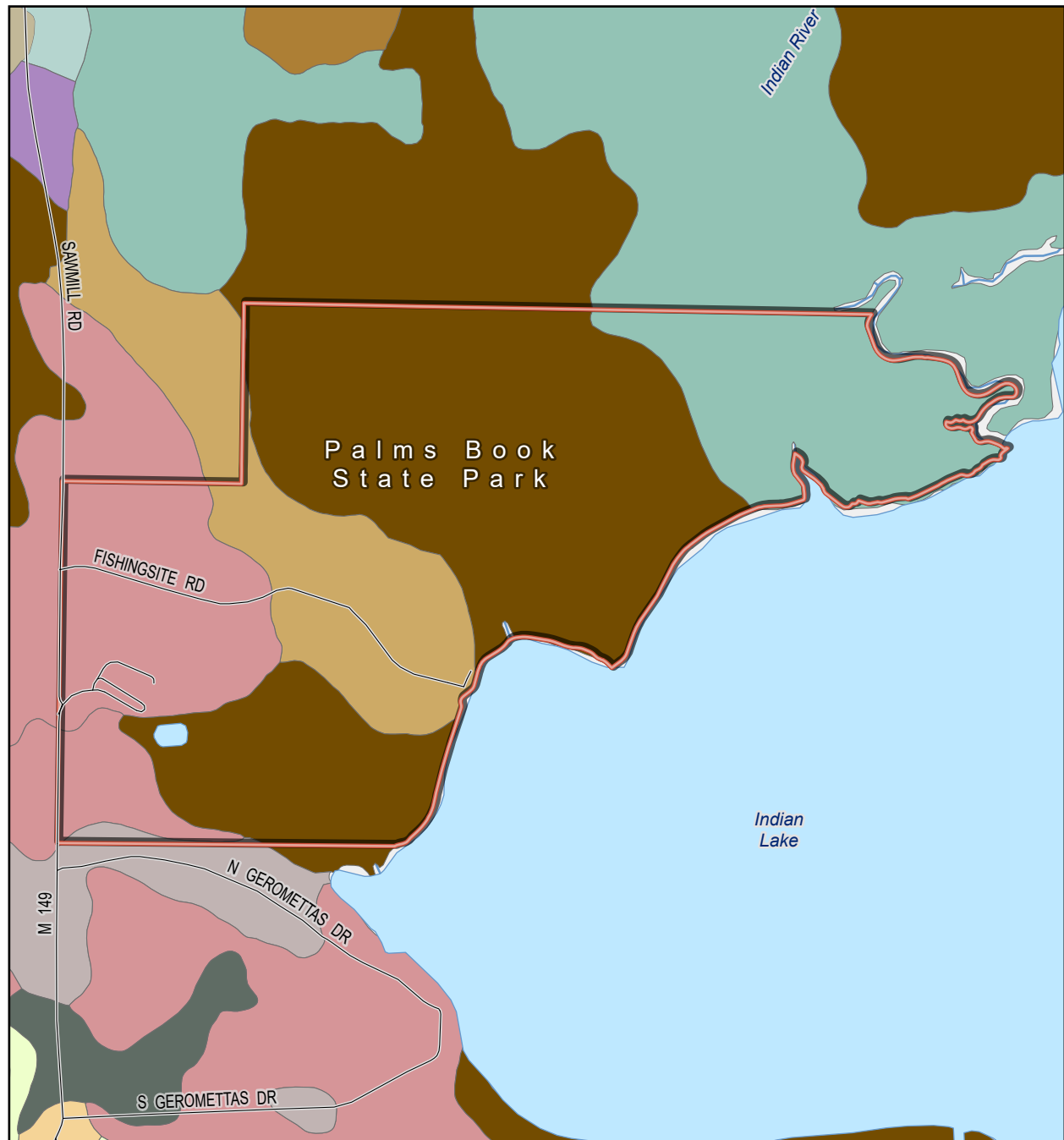
Palms Book State Park - Exemplary Natural Communities

- | | |
|---------------------|-----------------------------|
| State Park Boundary | Natural Communities* |
| Road | Emergent Marsh |
| River/Stream | Northern Wet Meadow |
| Lakes and Rivers | Poor Fen |
| | Rich Conifer Swamp |



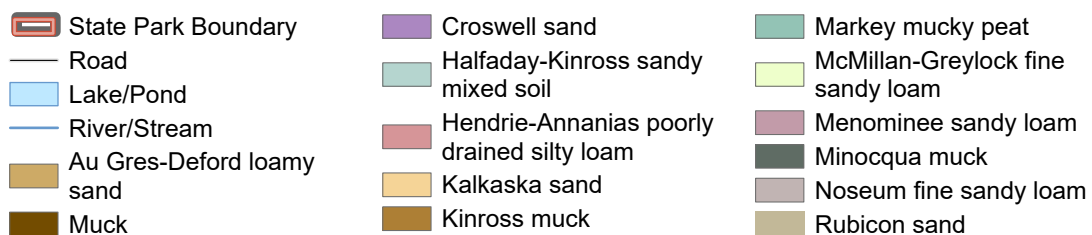
Updated: 02/15/2023

*Natural Communities of Michigan (Michigan Natural Features Inventory)



MICHIGAN DEPARTMENT OF NATURAL RESOURCES

Palms Book State Park - Soils



Updated: 12/01/2022



MICHIGAN DEPARTMENT OF NATURAL RESOURCES

Palms Book State Park - Wetlands

- State Park Boundary
- Lakes/Ponds
- Rivers/Streams
- Roads
- Wetlands***
- Freshwater Forested/Shrub Wetland



Updated: 09/29/2022 9:17 AM

*The National Wetlands Inventory (NWI) dataset (2012)



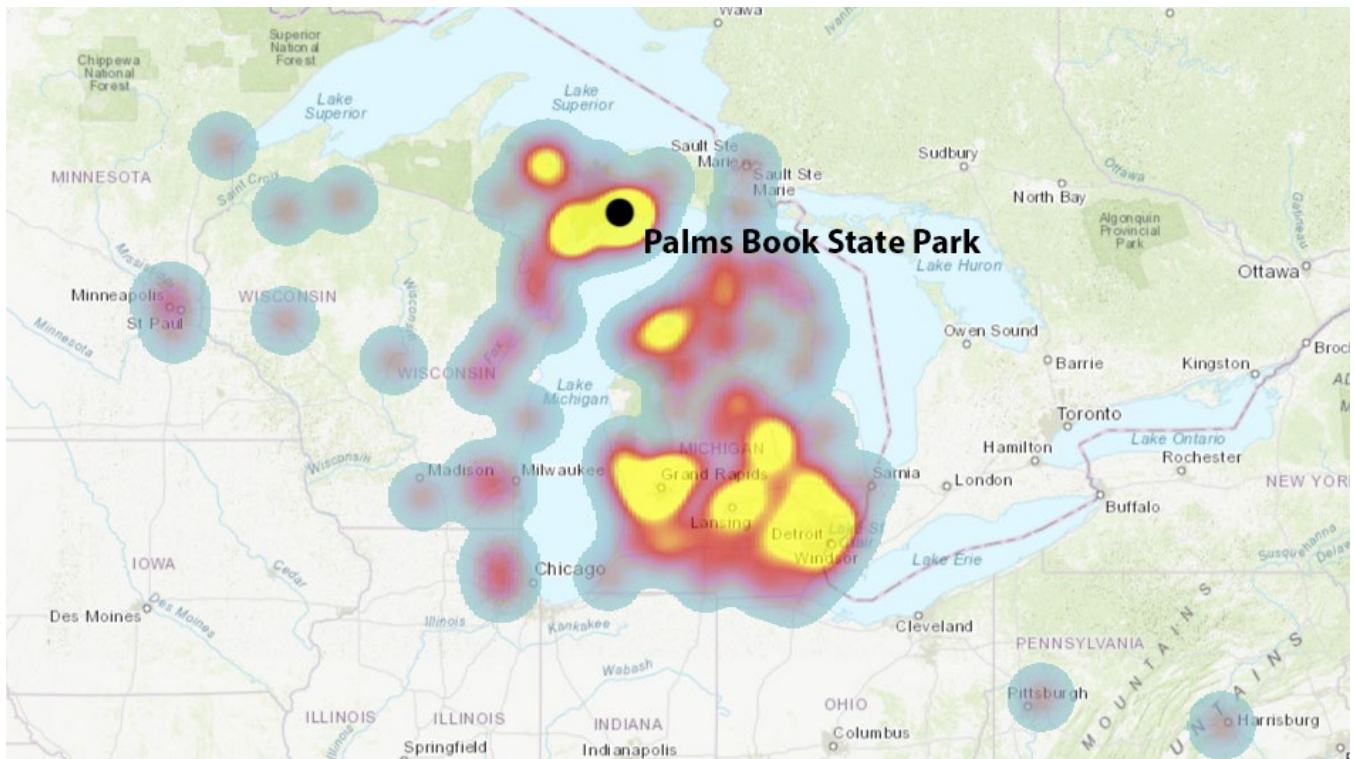
MICHIGAN DEPARTMENT OF NATURAL RESOURCES

Palms Book State Park- Park Amenities

- | | | |
|---------------------|---------------------|-------------------|
| State Park Boundary | Lake/Pond | Parking Lot |
| Road | Open to Hunting | Restroom |
| River/Stream | Closed to Hunting | Concession/ Store |
| | Boating Access Site | |



Updated: 11/23/2022



Heat Map depicting the zip code of survey respondents' primary residence. Warmer colors represent a greater concentration of respondents. A small number of respondents are located beyond the map extents. Survey respondents were primarily located in Michigan.

Appendix

B: Public and Stakeholder Input

B.1 Summary of Public Input Survey

One of the methods the planning team used to gather input from park users was an online survey. This approach provides a convenient way for those who have access to the internet to provide feedback, though it is not designed to be statistically representative of Palms Book State Park users or uses, as respondents self-select. The online survey provides valuable information about what certain individuals or groups (those who are likely to receive DNR communication about the survey and are motivated to comment about the state park) hope to see in the park's future management.

The survey was advertised to a diverse range of people through various means. A press release was sent to Subscribers of Statewide DNR News, which included over 87,600 recipients and promoted on social media. The survey link was also sent to over 40 stakeholders the planning team had identified who were invited to share the survey. It was also sent to those who had made reservations (camping or shelter) at Indian Lake State Park in the last 3 seasons: an additional 10,737 recipients.

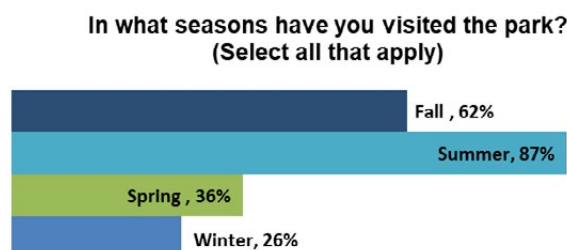
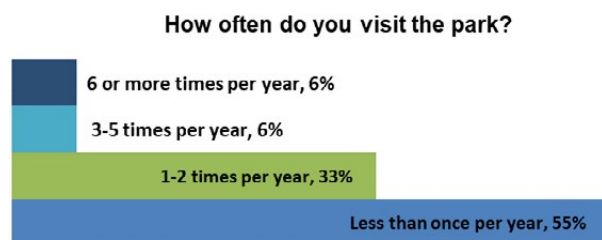
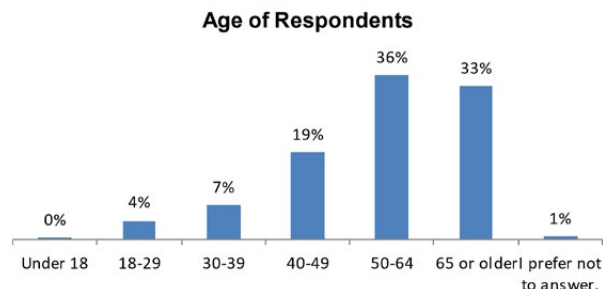
Responses were collected from April 26 through May 25, 2023. During the collection period, 327 individuals responded to the survey. Of those respondents, 322 (98%) have visited the park in the last ten years and went on to answer the remainder of the questions in the survey. 186 (58%) of respondents had visited the park in the last year. Of those that had not visited the park, the top reason was that they intended to visit but have not yet. The highest number of respondents were between 50 and 64 years old (36%) followed by respondents 65 years or older (33%). Respondents were from all over Michigan, but many were from northern Michigan, particularly around Manistique. A small number of respondents were located outside of this regional area and are not shown on the map.

Your Visit

Palms Book State Park is a unique destination park that does not offer camping. Survey results indicate that 55% visit the park less than once per year, 33% visit 1-2 times per year, and 12% visit the park three or more times per year. Survey respondents were most likely to visit in the summer season

Respondents were asked what three words they would use to describe the park to someone who had never visited. The top ten most common words were beautiful, unique, amazing, peaceful, awesome, fun, interesting, clear, breathtaking, and natural. The word cloud below shows the top 60 most-mentioned words, with the increasing size of the word indicating a more frequent response.

Visitors participate in a range of activities at Palms Book State Park. The most common activities respondents report participating in are using the raft on the Big Spring (99%), using the restroom facility (88%), visiting the gift shop/



Words most frequently used to describe the park. Larger word size indicates a more frequent response.

concession (80%), photography (53%), nature viewing/study (47%), and picnicking (33%). Of those surveyed, 66% said that visiting the Big Spring was the main purpose of their trip.

The survey asked why respondents chose to visit the park. 251 respondents (81%) answered that they were interested in visiting the spring as a unique natural feature. Many open response answers mentioned family history or childhood memories, showing the park to family and friends, or close proximity to Indian Lake State Park where respondents were camping.

More than half of respondents visit other attractions in the same area on the same trip as their visit to Palms Book State Park. Frequent destinations included Indian Lake State Park, Fayette Historic State Park, Manistique, Lake Michigan, the fish hatchery, Pictured Rocks, Tahquamenon Falls, and more.

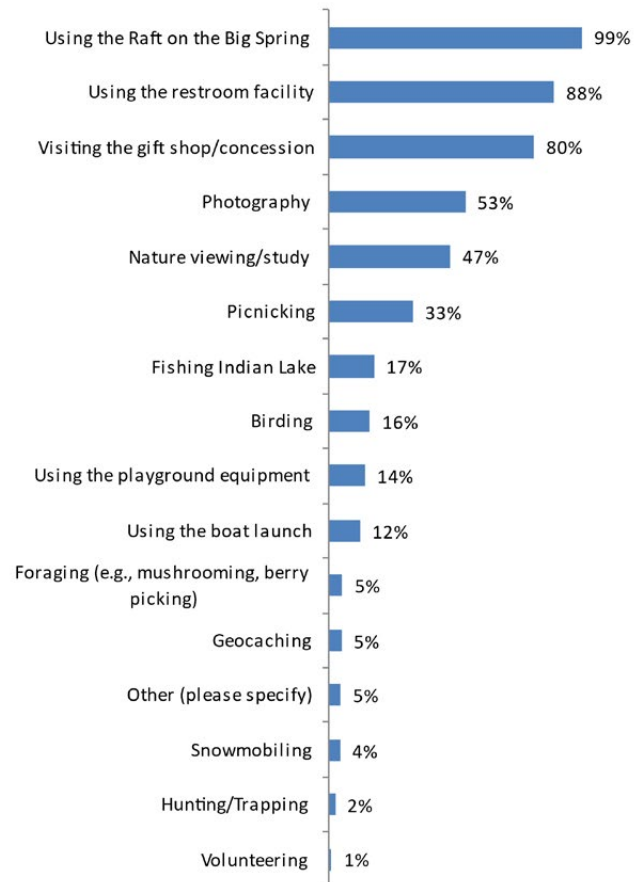
Raft Experience

Survey respondents were asked to rate their satisfaction with the observation raft. About 64% of respondents rated their satisfaction with a 9 (highly satisfied) while less than 3% rated their satisfaction with a 3 or lower (1 being highly dissatisfied). The weighted average of the responses was 8.31, indicating a high level of satisfaction with the experience. When asked what influenced their satisfaction rating, common themes included positive items such as the enjoyment of the unique experience and taking in the natural beauty, enjoying the glass bottom of the raft and the various angles available for viewing the surroundings, the simplicity of the raft, and the nostalgia and tradition of the experience. Negative comments included the need for updates and maintenance of the raft, and crowding and wait times to board the raft. Five randomly selected comments follow.

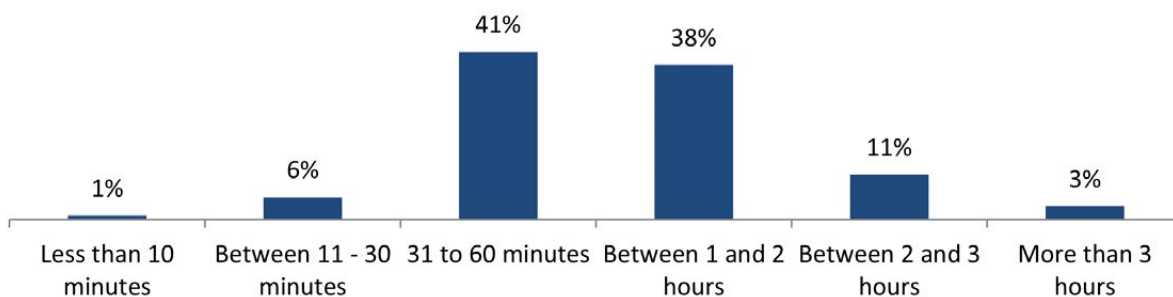
What most influenced your rating?

- It's a fun and unusual way to see a natural feature, and to see the big fish up close.
- The lines to raft have been long.

Please check ALL the activities in which you participate at Palms Book State Park. (Select all that apply)



About how long was the length of your visit at the main park area (parking lot, big spring, restrooms, and concession/store)?



- The raft is great, but REALLY hard for two small women to do alone. I've always been on the raft with groups and never had to drive. We were alone and it was tough.
- Memories from childhood, watching my kids have the same experience.
- The raft was frozen to the launch on this visit, but I have taken the raft several times in the past. The fact that you added a roof and interior observation to the raft is awesome. I grew up nearby and remember the old raft very well.

When asked how important the experience of boarding and riding the self-propelled raft was during their visit to Palms Book State Park, 83% reported that it was very important to have that experience. Respondents were asked what they enjoyed most about the experience. Main themes included enjoying the raft ride and being pulled back and forth across the water, appreciating the unique and interactive nature of the activity; the Big Spring itself with its clear, beautiful water and the opportunity to observe the fish and other wildlife; nostalgic memories of visiting the park as children; the lack of commercialization; the joy of introducing the park to others; and the park's ease of access, clean facilities, and helpfulness of staff. Five randomly selected responses follow:

What did you like most about your experience?

- The beautiful water, seeing fish, reliving a memory.
- The relaxed atmosphere and everybody having fun.
- The raft was a great feature.
- Beautiful place to visit.
- It's natural beauty.

Respondents were also asked what could be done to improve the experience. One theme included addressing wait times and line management, such as implementing a real-time app or information system, considering timed entry options during busy months, or ensuring a timely schedule for the raft.

Another theme was enhancing accessibility and infrastructure, such as improving wheelchair accessibility, providing clear directions on raft use, upgrading and expanding restroom facilities, increasing parking lot capacity and conditions, expanding food services, and adding an elevated viewing platform or additional viewpoints. Respondents also suggested environmental preservation and visitor management changes such as controlling or limiting the number of visitors to protect the natural environment and promoting responsible visitor behavior. Others thought that more educational and interpretational materials could be added to the experience. Five randomly selected responses follow:

What could be done to improve your experience?

- Put a little more effort into the picnic table/playground area. Plus, a bigger Dog Run area.
- More native history. More geologic information.
- Maybe remove some of the fallen logs in the pond.
- Keep it clean and safe family place to visit.
- Make the raft fully glass bottomed. People will stand on a glass floor. It should still be manual.

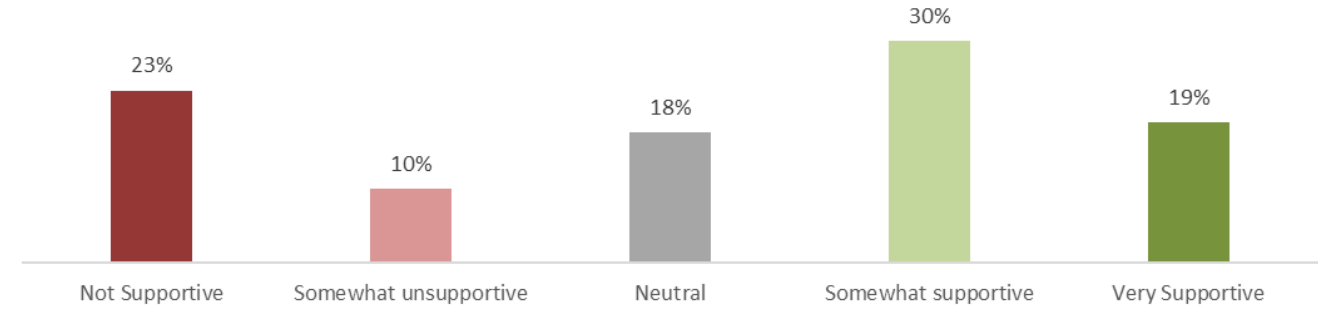
Wait Time

The self-propelled raft on the Big Spring is a very popular feature of Palms Book State Park. Survey respondents were asked if they ever decided to forgo the raft experience due to long wait times. Sixty-six percent indicated they had never done this, while 18% said they had one time and 16% said they had opted out on multiple occasions. When asked about the maximum amount of time respondents were willing to wait for the raft, most (72%) said they would wait up to 30 minutes, while 18% said they would wait up to one hour. Seven percent of respondents answered that they would wait as long as it takes to board the raft.



Word cloud depicting what attractions respondents visit on the same trip as Palms Book State Park

Would you support a different spring viewing platform experience other than the self-propelled raft, if visitor wait time to view the spring was significantly reduced?



Viewing Experience

90 respondents (30%) indicated they would be “somewhat supportive” of a different viewing platform experience, provided it reduced the wait time. 70 respondents (23%) said they would not be supportive of changes to the raft experience. Numerous comments were made both in support and against the changes, with many visitors asking to not change the experience. Some respondents emphasized the importance of maintaining the natural aesthetics of the area and were concerned about excessive development or structures that could detract from the environment. Others mentioned the need for experiences to be accessible and accommodating. Many had a preference for minimal interference and impact on the natural surroundings, such as floating docks, boardwalks, bridges, or observation platforms.

Comments:

- Only if it fit well within the area.
- Don't know of any other viewing option that would be better than the self-propelled raft.
- Leave it the way it is.
- Maybe a tall overhead viewing deck- while not handicap accessible, it could allow more people to view and a different view.
- The raft has always been one of the things that makes visiting the Springs fun.

Timed-entry program

Support for a timed-entry program to reduce wait times for the raft was mixed. 35% of survey respondents were not supportive of the idea, 10% were somewhat unsupportive, 18% were neutral, 27% were somewhat supportive of the idea, and 11% were very supportive. Comments on this topic were overall not supportive, with respondents expressing concerns about the inconvenience and restriction of a timed entry, or that there would be a negative impact on the

number of visitors and turn people away from the park. Some respondents thought it would be challenging to implement considering the lack of cell service at the park. There were some comments in support of the idea, saying that it might be a good idea during the busiest periods, or having a limited capacity for pre-bookings while still allowing some walk-ins. Other suggestions included creating additional attractions or activities for visitors to engage in while waiting, adding a nature walk or boardwalk, or encouraging off-peak visitation.

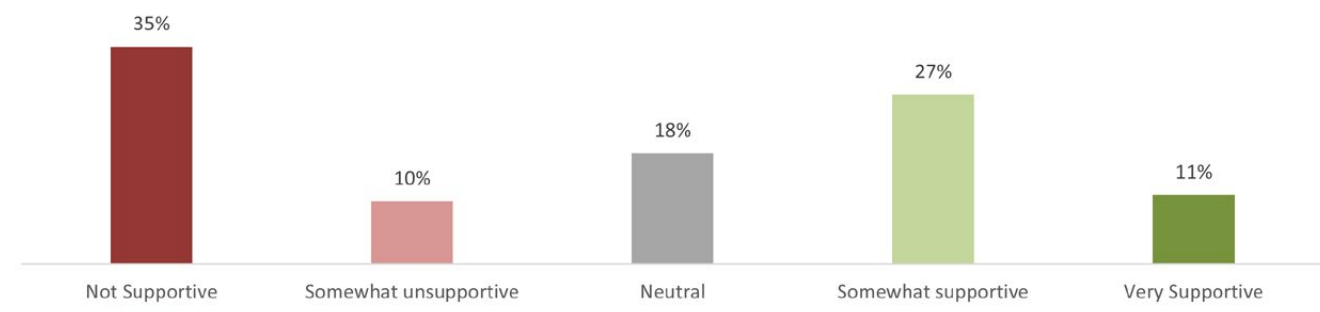
Comments:

- Absolutely not, ruins spontaneous trips.
- This spot is worth the wait, and if you are not willing to wait, then come back some other time.
- I'm on vacation, I don't want an appointment time to see a spring. And there is not that much else to do while waiting for my scheduled appointment.
- Don't restrict and put limitations on it. We enjoy speaking to out-of-state visitors and informing them of other UP attractions.
- Timing on vacation may be difficult.

Concession/Gift Shop

When asked about their level of satisfaction with the concession and gift shop facilities, most respondents indicated a high level of satisfaction. About 60% of respondents selected between 7 and 9 on a scale where 9 indicated highly satisfied and 1 indicated highly dissatisfied. When asked what most influenced the satisfaction rating, comments included positive attributes such as the enjoyable ice cream offerings, the cleanliness of the shop and friendliness of staff. Negative comments included a desire for a greater variety of merchandise or locally-made items, that the shop was too small or cramped, or that the shop was closed or had limited operation during their visit. Some stated simply that the shop was just not the main attraction of the visit.

Would you support an advance reservation system or timed-entry program at peak visiting times if visitor wait time to access the raft was significantly reduced?



What most influenced your rating?

- Not that interesting in gift shops, but nice to be able to pick up a snack.
- Tradition. Can't visit the park without getting an ice cream.
- Nice little shop.
- I wasn't aware that there was a concession/gift shop.
- I'm not a big shopper.

Other Thoughts

Finally, respondents could share any other comments they had about the park and optionally submit a photograph of their experience. Overall, the main themes revolve around balancing visitor access and enjoyment with the need for preservation and maintaining the park's unique character. Visitors appreciate the park's natural beauty and have fond memories of their experiences, but there are concerns about overcrowding and the potential impact on the park's environment.

- **Timing and Crowds:** Many visitors mention the importance of visiting the park during off-peak times or off-season to avoid crowds and long wait times for the raft. Some express concerns about the park becoming too crowded and overwhelmed with visitors.
- **Natural Beauty and Preservation:** Visitors appreciate the park's natural beauty and express a desire to preserve its pristine and rustic charm. They emphasize the importance of protecting the unique features of the park, such as the spring and the surrounding environment.
- **Nostalgia and Family Memories:** Several visitors mention their long-standing connection to the park, sharing memories of visiting with their families, including parents, grandparents, and their own children. They express a deep emotional attachment to the park and a desire to keep it as it is.
- **Infrastructure and Facilities:** Some visitors suggest improvements to the park's facilities, including upgrading the bathrooms, adding a larger pavilion for shelter,

improving signage, and expanding the gift shop or adding a restaurant. Others mention the need for better maintenance, such as addressing garbage collection and removal.

- **Cultural and Historical Significance:** A few visitors highlight the park's cultural and historical significance, suggesting that tribal governments should be involved in managing the park or that the land should be returned to indigenous peoples. They also express a desire for more accurate and inclusive representation of native history and culture.

Five randomly selected comments follow:

Please share any other thoughts you may have on the park.

- I strongly encourage the development of a process to return this land to the indigenous peoples who were stewards here long before Europeans. In the meantime, allow no more development.
- It's a beautiful park which we enjoy visiting and I would hate to see it go to a time-entry system, as we visit sometimes when we're camping in the area and other times when we're just passing through and sometimes both of those tend to be spontaneous visits.
- The simpler for this park the better, I love this park, it along with many other parks throughout Michigan influenced me to pursue a degree in Parks and Recreation.
- I love the Big Spring & want it to be protected, but also want everyone to be able to experience it and enjoy it. Educational placards placed on the new fence for people to view while they wait for the raft would be great.
- Nice park. Glad we visited in the fall when it wasn't that busy.

Survey participants could leave a photo of their experience at Palms Book State Park. These photographs will be used to bring the General Management Plan to life! The DNR appreciates everyone who took the time to participate in the survey.

B.2 Summary of Stakeholder Input Workshop

To gather targeted input from individuals and groups in the community representing governmental, non-profit, and business/tourism entities, the planning team invited over 40 stakeholders to participate in a facilitated input workshop held on May 16, 2023, from 10:00 am to 12:00 p.m. at the Comfort Inn in Manistique, Michigan. Representatives of the Michigan Department of Natural Resources (DNR) provided the stakeholders with a brief overview of Indian Lake State Park, including its natural features, cultural resources, and recreational offerings. The stakeholders were also presented the general management plan process, timeline, and an explanation of the plan elements that their input would inform: the statements of significance and the management zone map.

Stakeholder Input Workshop Attendees

The stakeholders were divided into two small-table discussion groups, which completed a series of exercises describing the park’s context, the park itself, opportunities for partnerships, the park’s potential benefit to the larger community, and the stakeholders’ vision for the park’s future. Each table then reported out to the larger group. The results of the table exercises are outlined below.



Additional photos of Palms Book State Park visitors enjoying their visit

Icebreaker Question

When the stakeholders introduced themselves, they were asked to describe what matters most to them about the park. Their responses are listed below.

What matters most to me about Palms Book State Park is...

NAME	STATEMENT
WINCH DILLER	Winter and summer access via Trail 7 & 2 West, Snowmobile and ORV
ASHLEY REITTER	Recreation access for all. Preserving the beauty of both parks.
ELISE DESIARLAIS	Maintaining the natural environments that both residents and visitors come to enjoy
JOAN ECCLESINE	Viability of both sites. Star sites of Schoolcraft County, Tourism Area, Tourist Council
CONNIE DILLER	Marketing our beautiful parks and keeping them natural, so everyone can enjoy our area
GARY DEGRAND	Accessibility- ORV- Snowmobile

Exercise 1: Say one word or phrase that describes the park right now.

Stakeholders had both positive and negative things to say about Palms Book State Park, mentioning its unique natural beauty, cleanliness and new facilities, but that it is crowded and the paths are worn out.

WORD OR PHRASE	MENTIONED AT TABLE #
Crowded	1,2
Worn out paths	2
Raft (mechanics)	2
Natural beauty	2
Nice new bathroom	2
Unique	1
Clean	1
Safety	1

WORD OR PHRASE	MENTIONED AT TABLE #
Signage	1
Highway- how to get there	1
Connectivity	1

Exercise 2: Say one word or phrase that you want to describe the park in the future.

In the future, stakeholders wanted to still be able to experience the Big Spring, but mentioned varying ideas such as staffing the raft, creating a boardwalk around the spring or a pier going out into it. They wanted to protect the natural habitats by making sure the pathway boundaries would keep visitors out of the wetland area, and that the attraction was sustainable and not overused.

ITEMS	MENTIONED AT TABLE #
Raft	1
Staff the raft	1
Boardwalk around	1
Pier out into spring	1
Nature-hiking trail	1
Sustainability related to capacity not over-use	2
Pathway boundaries- separate from wetland area	2
Natural habitats	2
Designated funding	2

Exercise 3: What improvements or changes would you like to see at the state park? What things would stay the same?

Some of the top items that stakeholders wanted to see changed or improved at the park included Wi-Fi and cell service, strong pathway boundaries, and adjusting the attraction for capacity. They wanted to maintain the pristine/ natural feel of the park and wanted to see the experience of the raft on the springs continue.

Improvements or Changes

ITEMS	MENTIONED AT TABLE #	TOTAL VOTES
Wi-Fi / cell service	1	3

ITEMS	MENTIONED AT TABLE #	TOTAL VOTES
Pathway boundaries	2	3
Adjust for capacity	2	3
Nature trail	1	2
Park interpreter (for programs)	2	2
Parking	1	1
ORV campers parking	1	1
Historic preservation	1	1
Mechanics of raft	2	1
Boat wash/ORV wash units	2	1

Stay the Same

ITEMS	MENTIONED AT TABLE #	TOTAL VOTES
Keep it pristine/natural	2	5
Raft	1	4
Easy access	1	1
History	1	1
Leave the queue for the raft	2	1

Exercise 4: What are some collaboration and partnership opportunities that the state park presents for local communities and stakeholders?

Stakeholders suggested a variety of potential collaboration and partnership opportunities, such as local tourism organizations to promote the park, local school groups for conservation education and working with park interpreters, conservation and invasive species management groups, and nature/wildlife groups such as the Audubon and Ducks Unlimited. Stakeholders thought that engaging the local tribes in programming would be valuable.

GROUP OR STAKEHOLDER NAME	COLLABORATION OR PARTNERSHIP IDEA	TABLE #
Manistique Area Tourist Council		1
Schoolcraft Tourism + Commerce		1
Manistique Area Schools-DSISD	Teach conservation	1
Schoolcraft County Motorized Trails Association	Trail access	1,2

GROUP OR STAKEHOLDER NAME	COLLABORATION OR PARTNERSHIP IDEA	TABLE #
Lake to Lake Cooperative Invasive Species Management Area	Invasive species prevention + management	2
Schools/Outdoor Learning	Working with park interpreter	2
Boy Scouts/Girl Scouts		2
Schoolcraft Conservation District	Programs/events conservation/presentation	2
Birders/Audubon		2
Ducks Unlimited		2
Tribes	programming about the spring	2

Final Exercise: Collective Priorities

Finally, the top-voted items from exercise 3 from each table were combined onto one “Collective Priorities” exercise, and each attendee could vote among these items. The top-voted item from the process was to keep the raft, followed by improve pathways/boundaries to the spring and maintain the pristine and natural state. This input will be considered by the planning team when creating a 10-year action plan.

ITEMS	VOTES
Keep the Raft	10
Improve pathways/boundaries	7
Maintain pristine/natural state	7
Adjust for capacity	5
Improve Wi-Fi/Cell Service	1

B.3 Tribal Engagement

The following letter was sent via email to:

- Bay Mills Indian Community
- Grand Traverse Band of Ottawa and Chippewa Indians
- Hannahville Indian Community
- Keweenaw Bay Indian Community
- Lac Vieux Desert Band of Lake Superior Chippewa Indians
- Little Traverse Bay Bands of Odawa Indians
- Little River Band of Ottawa Indians
- Gun Lake Tribe of Pottawatomi Indians
- Nottawaseppi Huron Band of the Potawatomi
- Pokagon Band of Potawatomi
- Saginaw Chippewa Indian Tribe
- Sault Tribe of Chippewa Indians

Dear Tribal Leaders:

The Parks and Recreation Division (PRD) of the Department of Natural Resources (DNR) is in the process of developing general management plans for the following state parks:

- William C. Sterling State Park in Monroe County
- Duck Lake State Park in Muskegon County
- Indian Lake State Park in Schoolcraft County
- Palms Book State Park in Schoolcraft County

Negwegon State Park (phase 2 plan update) in Alpena and Alcona Counties

The DNR uses general management plans (GMPs) to define a long-range planning and management strategy that will protect the natural, cultural and historic resources of the site, while considering education and recreation opportunities. A planning team, representing various specialties within the DNR, has been established and is meeting regularly to develop the GMPs for these sites.

The planning process includes several opportunities for input, including a stakeholder meeting and online survey. In addition, the draft plans will be available for review and comment prior to adoption.

For additional information on our management plan process, please visit our website at www.michigan.gov/parkmanagementplans

We would like to give the Tribes the opportunity to meet with us to discuss the management plan process and any thoughts you may have in relation to any of these properties.

Please contact Ms. Debbie Jensen, PRD Management Plan Administrator, at Jensend1@michigan.gov if you would like any additional information or would like to arrange a meeting.

Sincerely,

Trevor J. VanDyke

Director, Legislative & Legal Affairs Office & Tribal Liaison
Executive Division, Michigan Department of Natural Resources
Constitution Hall, 525 West Allegan Street
P.O. Box 30028
(517) 284-6243

vandyket1@michigan.gov



B.4 Summary of Draft Plan Public Input

The public was invited to share their thoughts about the Palms Book State Park Draft General Management Plan at a virtual public meeting that was hosted online by the Department of Natural Resources (DNR) on November 29, 2023, from 6:00- 7:30 p.m. The meeting was hosted jointly with the public meeting for the Indian Lake State Park General Management Plan. The general public was notified about the meeting through a press release, internet postings, and email notifications. A total of 17 attendees were recorded.

The meeting began with an introduction of planning team members, followed by an overview of the general management plan process, Palms Book State Park, and the draft general management plan contents. The presentation was followed by a question and answer period. Topics discussed included the spelling of Kitch-iti-kipi.

At the end of the meeting, attendees were asked to visit the interactive public input survey link to review and comment on the statements of significance, management zone plan, and ten-year actions. There was also a section for additional feedback on the management plan and the input process. The survey link was posted to the park's website along with a recording of the meeting. The survey link was open through December 17, 2023. Comments could also be submitted during that time via email.

Public Input Received

There were no comments received on the statements of significance or the draft management zone map.

To assist with action prioritization, survey respondents were asked to select their top five actions. Each time an item was selected is considered one "vote" for that item. One participant voted on the action items, and their top actions are as follows:

- i. Complete the septic field upgrade.
- j. Rehabilitate the raft system, considering alternative spring viewing opportunities.
- k. Enhance and redevelop the parking lot and provide a detached RV/ORV parking area.
- l. Construct a new well.
- o. Update the day-use picnic facilities to ensure functionality and accessibility.

Meeting Satisfaction

When asked about satisfaction with the public meeting format, two people that participated had attended the public input meeting and gave an average ranking of 4.5 out of 5 with no comments.

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Appendix C:

Opinion of Probable Costs

C.1 State Park Funding

The primary funding sources for state park improvement and development projects are Recreation Passport sales (motor vehicle registration fee), the Park Endowment Fund (generated from royalties from oil, gas and mineral extraction on public land) and the Park Improvement Fund (from camping and other state park user fees). The annual capital outlay budget for state parks varies significantly from year to year, averaging approximately \$14 million per year over the past five years. Although this funding will have a big impact, the amount of need is still estimated to be in the hundreds of millions due to the aging infrastructure in the state park system.

With such a large gap between financial need and budget, all projects are carefully analyzed to look at innovative solutions to increase efficiencies or downsize assets.

C.2 Estimated Cost of Proposed Developments

The following table provides an estimate of probable cost for each capital outlay development project proposed at Palms Book State Park over the next ten years. Management and operations actions, small projects, which are funded out of district or park funds, and those lead by partners, are not included in this list but may have additional financial

implications. The costs are based on information available at the time and will be refined as conceptual and detailed designs are completed. Where noted, the costs may only include studies or project planning, which will provide direction for development costs if determined appropriate. The costs are based on 2022 prices and should be adjusted according to the consumer price index and the market at the time of implementation.

The following Action Plan are ranked in terms of priority based on health, safety, and welfare, as well identified need and ease of implementation (cost, ability to implement with own staff, partnerships etc.). Priority Level 1 projects indicate those that should be addressed within the next 2 years. Priority Level 2 projects include those that should be addressed within 2-5 years. Priority Level 3 projects are desired but can be tackled in the next 5-10 years once funding has been identified.

PRD will seek future internal funding, alternative funding sources, partnerships and other potential mechanisms for implementing the desired future conditions defined in this plan. Costs listed below do not guarantee funding. On an annual basis, PRD districts determine priorities for project planning and project capital outlay. Each district's top projects are then evaluated at a state-wide level for available funds.

Infrastructure and Development: Capital Outlay

ACTION PLAN	PRIORITY	OPINION OF PROBABLE COST
Complete the septic field upgrade.	1	\$650,000
Rehabilitate the raft system, considering alternative spring viewing opportunities. (ARPA)	1	\$350,000
Enhance and redevelop the parking lot system and provide a detached RV/ORV parking area. (ARPA)	1	\$750,000
Construct a new well.	1	\$75,000
Construct a new storage building.	3	\$225,000
Construct a new contact station.	3	\$325,000
TOTAL*		\$2,375,000

*Excludes costs yet to be identified by studies to determine best way to proceed and costs associated with projects that are already funded.

Appendix D:

On-Site Survey Report

Palms Book State Park 2017 On-Site Use and User Study Report

By Charles M. Nelson and Thomas Braum, Department of Community Sustainability

Michigan State University, East Lansing, MI 48824

March 22, 2018

Introduction

As part of the management planning process for Palms Book State Park (SP), an on-site study was conducted to provide a representative sample of park visitors to provide an overall estimate of mean user hours per vehicle in the parking lot, assess local spending, ascertain the opinion of park users about the future management options and approaches and provide a profile of park visitors. This on-site approach samples users on systematically selected days and times across June- November of 2017. It uses a windshield survey at the only public access point to the park to ensure representation of the full range of park users.

Methods

The on-site study methodology and questionnaire were developed by the senior author in cooperation with the DNR Park Planner Debbie Jensen of the DNR Park and Recreation Division (PRD) staff. The questionnaire is found in Appendix B and is very similar to an instrument that was used in 2016 in the pilot project of integrating visitor surveys into the state park management planning process at Sleepy Hollow State Park. A sampling calendar was developed that proportionally allocated sampling days across June- November based on seasonal estimates of park use for summer and fall provided by the DNR (Appendix C). The survey commenced in the field on June 24, 2017.

On a sample day, the survey administrator (a Michigan State Park employee) would arrive at the park at the start time and sample the parking area at the Big Spring and the BAS site on Indian Lake within the Palms Book boundary. The administrator would count all vehicles present upon entering each lot. Once the count was made, a postcard questionnaire with location, questionnaire number, date and time of day was distributed to each vehicle by putting the card on the windshield or directly handing it to the driver if he/she was at the vehicle. If it was raining, surveys were enclosed in a clear plastic bag and placed on the windshield. While almost all vehicles receive a questionnaire, occasionally one leaves before a survey can be administered, hence the number of surveys distributed is slightly less than the vehicle count. If there are more than 50 vehicles in the lot, all are counted but only the first 50 counted receive a questionnaire to limit confusion and keep to a time schedule for the survey administrator to complete other duties.

This method does not capture input from those arriving by bicycle and on foot, only those arriving by vehicle. However, those arriving by vehicle directly support the Michigan State Park system through the purchase of the Recreation Passport or, in the case of non-residents, through the purchase of the non-resident motor vehicle permit. Those arriving by bicycle or on foot, if they have not purchased the Passport or a non-resident motor vehicle permit, are not providing such direct financial support.

Respondents returned the questionnaire by U. S. mail using the postage paid, business reply feature of the postcard. Cards were directly delivered to Dr. Nelson at MSU.

Results

Results are presented in three ways. The first is observations/vehicle counts done by the survey administrator. These provide an assessment of use levels for the parking area. The second is survey responses to questions 1-10, which focus on the respondent's experience the day they were sampled. Since these questions ask about the specific day's experience, each use is a use, whether done by a person who visits the park once or one hundred times a year. However, Questions 11-16 are weighted to account for frequency of use bias as they ask about suggested improvements, things not to change and demographic information that defines the distinct park user. A frequent user, such as one who visits the park 100 times a year, has 100 times greater chance of receiving a survey than one who visits the park once a year. To be able to use a one person, one vote rule

where each person has an equal say in suggesting potential changes or the lack of them, the data is weighted to eliminate the frequency of use bias in sampling. For distinct users the data is weighted by the reciprocal of the number of uses the previous year (Q 16). If a person used the park once in the previous year, their weight is 1/1. If they used it 100 times, their weight is 1/100. If they had not visited the park in the previous year, their responses were weighted at 1/1.

All results tables are provided in Appendix A and are numbered as they are in the text of this report.

Observations

There were 21 sample days scheduled in Summer (June – August) and 6 sample days scheduled in Fall (September – November), reflecting use levels estimated in the previous year based on mechanically obtained vehicle counts. Palms Book had the same sample schedule that the adjacent Indian Lake State Park did since it is administered by the Indian Lake staff on a regular basis. A total of 665 vehicles (545 during summer and 120 during fall) were counted during 27 sample days/times and 464 questionnaires (384 during summer and 80 during fall) were distributed on vehicle windshields (Table 1). Because many only stay at the Big Spring for a short period of time, quite a number of vehicles that were counted at that lot were unable to be surveyed. At the BAS lot on Indian Lake, that was not an issue as lengths of stay were much longer.

Survey Results: Uses

Eighty-one completed questionnaires were returned by respondents as of the December 31, 2017 cutoff. Since the last survey date was November 17, this provided almost seven weeks for surveys to be returned after the last sampling date. That is a 18% response rate.

Activities and Party Characteristics

The average amount of time a day visitor vehicle was in the park was 1.8 hours and the day visitor party averaged 3.3 people per vehicle. However, many day visitors were grouped with others in other vehicles as the average day visitor group had 4.8 people. A total of 11 percent of all respondents reported on the day they were sampled that one or more people in their vehicle had a physical impairment that seriously limited him/her from participation in work or recreation. These persons would be classified as disabled under the Americans with Disabilities Act.

Park visitors participated in a relatively narrow range of activities as most were focused on seeing the Big Spring. Table 2 shows that the five most common activities for day visitors in order of participation were rafting the Big Spring, photography, hiking, nature observation and picnicking. When day visitors were asked the one most important park activity to them, the three responses with more than 1% of respondents were rafting the Big Spring, taking in the whole Big Spring experience and nature observation.

Local Spending and Lodging the Previous Night

Park visitor spending during the 24 hours prior to their being surveyed within 20 miles of Palms Book State Park was substantial (Table 3). Day visitor spending averaged \$142 per vehicle with 90% of them spending something in the local area in the past 24 hours. The greatest portion of spending was on lodging and restaurant expenses, followed by vehicle related expenses.

For respondents, staying at a hotel/motel or similar commercial establishment the night before they were surveyed was the most common origin (46%), followed by staying at a campground other than Indian Lake State Park (17%), their own principal home (17%), Indian Lake State Park (6%), another's home or second home (6%), their own second home (5%) or some other lodging location (3%).

Satisfaction

When asked to rate their satisfaction with their Palms Book SP experience the day they were sampled, day visitors were generally very satisfied with a mean rating of 8.7 (Table 4). They rated the experience on a scale of 1-9 with 1 being highly dissatisfied, 5 being neutral and 9 being highly satisfied. More than 3/4 of respondents gave their experience the highest satisfaction rating (9), with no respondents rating their experience as highly dissatisfied (1). Only 1% rated their experience as less than neutral and none rated their experience as neutral (5).

When asked an open-ended question about the reason for their experience rating, positive comments were received about the Big Spring raft experience, the nature aspects of the park and the joy their visit brought them. The very small proportion of comments that were negative focused on concerns about the lack of facilities or information (Table 5).

Distinct Users Opinions

To understand the opinions of distinct users, one open ended question asked visitors to identify the one most important change they would like at Palms Book SP. This information is weighted as previously discussed to ensure frequent users who are more likely to be sampled are not over represented in the results. If a respondent provided more than one desired change, only the first change was recorded in data entry. Day visitors most commonly suggested keeping the park as it is, better information including improved signage, improved management of the raft experience and better trail maintenance (Table 6).

When asked what one most important thing should not be changed at Palms Book SP (Table 7), distinct users were most likely to note don't change the raft, don't change anything keeping it as it is and don't change natural appearance/feel of the park.

Demographics

Distinct respondents had a mean age of 50, with ages ranging from 18-75. Seventy percent of distinct user respondents were female and 30% male. For distinct day visitors, only 13% had an Upper Peninsula zip code, while 65% had a Lower Peninsula zip code and the rest were from out of state (Table 8). The four most common zip code origins for distinct user respondents were all in Michigan: 48879 (St. Johns); 48356 (Highland); 48911 (Lansing) and 49837 (Gladstone)

Summary

Palms Book is a significant attraction in Michigan's Upper Peninsula with its convenient location near US-2 and the City of Manistique. It provides access to a natural wonder at the Big Spring that can be visited by those with disabilities or small children. It is noteworthy that more than 40% of Palms Book visitors stayed in an area motel or hotel, providing considerable economic benefit to the area. Another significant portion camped at Indian Lake or another nearby campground. Spending at restaurants in particular by visitors was widespread with over 60% eating one or more restaurant meals within 20 miles of the park. Such spending is a significant positive impact for the local economy as many such businesses are locally owned and labor intensive, keeping money spent local and quickly reverberating and multiplying through the economy as local workers and owners spend their wages and profits.

Satisfaction is very high with Palms Book, exceeding the six other parks studied in 2017. Understandably, requests for improvements are modest with many liking it as it is. There is great support for keeping the park its current state and providing the experience of rafting across the Big Spring. There are requests for improved information at the site, better trails to the spring and finding a way that more can access the raft without lengthy waits as groups ahead of them are leisurely in their use of the raft when it is their turn. However, this hasn't dampened the enthusiasm for the park or experiencing the Big Spring. The efficient administration of the park by Indian Lake SP staff just down the road is also a great plus to Palms Book.

Acknowledgements

The authors would like to thank Michigan DNR Park and Recreation Division permanent and seasonal staff for their distribution of the survey instrument, record keeping of the number of surveys distributed and counting vehicles during sampling. We also appreciate the on-going cooperation with Division Planning staff with the project.

Appendix A. Tables of Results

Table 1. Vehicle counts and surveys distributed on-site 2017 at Palms Book SP day use areas.

Parking Lot/Area	Summer Count	Summer Surveys Dist.	Fall Count	Fall Surveys Dist.	Total Count	Total Surveys Dist.
Big Spring	517	357	120	80	637	437
BAS Site NW Indian Lake	28	27	0	0	28	27
Total	545	384	120	80	665	464

Table 2. Percent Palms Book SP on-site respondents participating in selected recreational activities and most important activity during visit during sample day in 2017.

Activity	Participating	Most Important
Raft Big Spring	68%	53%
Photography	53	1
Hike/walk	46	7
Nature observation	35	7
Picnic	16	1
Swim	4	1
Bicycle on a paved road	4	0
Fish from a boat	2	1
Paddle canoe/kayak	2	0
Power boat	2	0
Fish from shore	1	0
Sunbathe	1	0
Experience the Big Spring and surroundings	NA	29
Total	NA	100%

Table 3. Expenditures of on-site respondents during past 24 hours within 20 miles of Palms Book SP in 2017 (a).

Item	% Spending on Item	Mean Amount \$ Spent
Lodging fees	41%	\$49
Restaurant & bar meals & drinks	61	31
Vehicle related	54	25
Grocery and convenience store food & drink	47	15
Sporting goods	10	5
All other items including souvenirs	48	18
Total	90%	\$142

(a) Totals may not exactly add up due to rounding.

Table 4. Rating of Palms Book SP use experience by on-site respondents on the day sampled in 2017.

Rating Scale	Day Visitors
1 (very dissatisfied)	0%
2	0
3	0
4	1
5 (neutral)	0
6	1

Rating Scale	Day Visitors
7	5
8	14
9 (very satisfied)	79
Total	100%
Mean Rating	8.7

Table 5. One most important reason for satisfaction rating with Palms Book SP use by on-site respondents on the day sampled in 2017 (a).

Reason	Day Visitors
Like Big Spring/raft	32%
Nature, wildlife, quiet	21
Generally like, wonderful, amazing, being outdoors	14
Clean, well maintained and patrolled	10
Easy access to Big Spring	6
Good staff	3
Poor/Lack of bathrooms, other facilities	1
Uncrowded	1
Like facilities	1
Lack of information/signage	1
Conflict with others (regarding raft)	1
Good rules	1
Long wait for raft	1
Like historic value/sense of site	1
Other positive hard to classify	3
Total	100%

(a) Total may not add to 100% due to rounding.

Table 6. Response to open ended question about one most important improvement at Palms Book SP by distinct on-site user survey respondents in 2017 (a).

Improvement	Day Visitors
Nothing to improve/change	39%
Better signage and information	13
Improve raft operation	8
Update existing facilities/provide more facilities	6
Improve trails	5
Improved maintenance	3
Increase staffing	3
Provide concessions	3
Improve shoreline fishing at Indian Lake BAS	2
More parking	2
Improved access for those with disabilities	2
Change park rules	2
Improve road maintenance	2
Increase public awareness of Big Spring	2
Other suggestions difficult to classify	8
Total	100.0%

(a) Total may not add to 100% due to rounding.

Table 7. Response to open ended question about one most important thing not to change at Palms Book SP for distinct on-site user survey respondents in 2017. (a)

Don't change	Day Visitors
Big Spring raft experience	36%
Don't know/Keep as is	29
Natural areas/nature/wildness/wildlife/quiet	12
Keep the recreation passport	4
Keep the area/general footprint of the park the same	3
Facilities/amenities	3
Staff/personnel	2
Parking	2
Rules/regulations	1
Other hard to classify	6
Total	100%

(a) Total may not add to 100% due to rounding.

Table 8. Origins of distinct park visitors to Palms Book SP by state for on-site user survey respondents in 2017 (a)

State	% originating
Michigan	78%
Wisconsin	7
Illinois	6
Ohio	3
North Carolina	1
Minnesota	1
Virginia	1
Vermont	1
Arizona	1
Total	100%

(a) Total may not add to 100% due to rounding.

Appendix B. On-site questionnaire

Palms Book State Park Use Assessment

_____Date

Dear Driver:

Michigan State University (MSU) and the Michigan DNR are cooperating to measure recreation use of Palms-Book State Park which includes the boating access site and parkland on the NW corner of Indian Lake as part of updating the park management plan. Please take the 4 minutes needed to complete this form and mail it to us postage paid or put it in one of the drop boxes in the park marked "Park Surveys". You will be anonymous and your name will not be connected with study results. You indicate your voluntary agreement to participate by completing and returning this survey.

1. Please check ALL of the activities in which one or more of the people from your vehicle participated while you were in the park today.

☐ Hiking/Walking/Running ☐ Photography ☐ Paddling watercraft
☐ Bicycling paved road/trail ☐ Picnicking ☐ Sunbathing
☐ Bicycling unpaved trail ☐ Hunting/Scouting ☐ Swimming
☐ Fishing from boat ☐ Power boating ☐ Metal detecting
☐ Fishing from shore/dock ☐ Raft in Big Spring
☐ Pick berries/mushrooms
☐ Nature observation (birding, etc.) ☐ Other(_____)

2. Which ONE activity was the MAIN reason visited the park today? _____

3. How many HOURS was your vehicle in the park today? _____ # HOURS

4. Including you, how many PEOPLE came here in this vehicle? _____ # PEOPLE

5. Including other vehicles, how many people are in your group? _____ # PEOPLE

6. Does anyone in your vehicle have a physical impairment that seriously limits his/her participation in work or recreation? ☐ Yes ☐ No

7. Where did you stay last night (check one)? ☐ Campground in Indian L. SP
☐ Own principal home ☐ Another campground ☐ Another's home/2nd home
☐ Hotel/motel/rental cabin ☐ Own 2nd home ☐ Other (_____)

8. During the past 24 hours, how much did you and those in your vehicle spend within 20 miles of Palms Book State Park on the following items.

Vehicle related (gas, oil, trip related repair, etc.) \$ _____
 Restaurant & bar meals & drinks \$ _____
 Grocery or convenience store food, drink or ice \$ _____

Sporting goods (fishing supplies, camping gear, etc.)\$_____

Lodging fees (camping, motel, cabin rental, etc.) \$_____

All other items (watercraft rental, souvenirs, etc.) \$_____

9. Please rate on a scale of 1-9 (w/ 1 highly dissatisfied; 5 neutral; and 9 highly satisfied), how satisfied you were with today's Palms Book SP experience. #_____ Rating

10. What is the ONE most important reason for your rating? _____

11. What ONE change would you recommend to improve Palms Book SP? _____

12. What ONE thing would you recommend not change at Palms Book SP? _____

13. What is your principal home zip code? _____

14. Your age? _____ years

15. Please circle your gender. M or F

16. How many days did you visit Palms Book SP in 2016 (last year)? _____ #days

Thanks for your help in improving the management of Palms Book SP.

Dr. Chuck Nelson, Project Director

MSU Dept. Community Sustainability, 480 Wilson Rd.,

East Lansing, MI 48824 Phone (517) 432-0272 nelsonc@msu.edu _____ Ques #

_____ Time

_____ Site

Appendix C. Palms Book Sampling Schedule 2017

- Based on Summer and Fall use levels per 2016 DNR park use data
- Summer (June- August); Fall (September- November)
- For our study purposes
 - Summer sampling June-August
 - Fall sampling September- November
- Sample days are divided the same way with 2/3 on weekdays and 1/3 on weekends similar to calendar.
- Palms Book SP sampling will begin at one of the following times each sample day: 9 AM, Noon, 3PM and 6PM.

Appendix D. Palms Book Sampling Calendar

Day	Date	Sampling Start Time
Sat	6/24	3PM
Wed	6/28	9AM
Fri	6/30	3PM
Sat	7/1	9AM
Mon	7/3	Noon
Thu	7/6	Noon
Sun	7/9	9AM
Thu	7/13	3PM
Sun	7/16	Noon
Tues	7/18	9AM
Sat	7/22	6PM
Wed	7/26	6PM
Mon	7/31	6PM
Fri	8/4	9AM
Mon	8/7	3PM
Sat	8/12	Noon
Tues	8/15	Noon
Thu	8/17	9AM
Sun	8/20	3PM
Fri	8/25	6PM
Wed	8/30	3PM
Wed	9/13	Noon
Sat	9/30	3PM
Tues	10/10	6PM
Sun	10/15	9AM
Thu	11/2	3PM
Fri	11/17	9AM