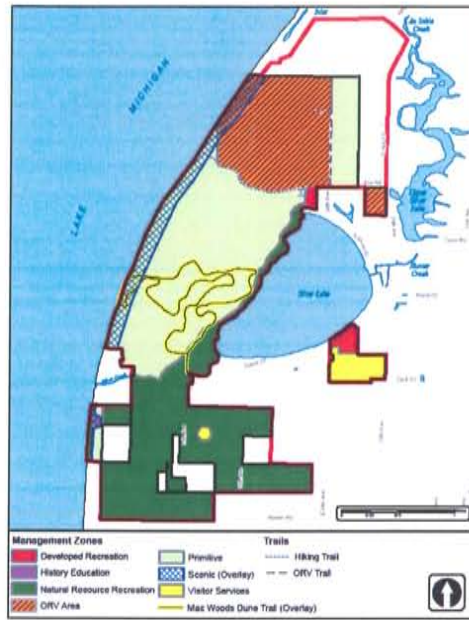


GENERAL MANAGEMENT PLAN

Long-range management guidance focused on the specific natural resources, historic-cultural resources, recreation opportunities, and the education-interpretation opportunities of...

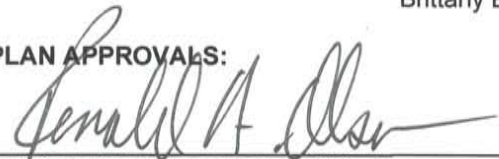
Silver Lake State Park



Prepared by:

Paul N. Curtis, Park Management Plan Administrator
 Troy Rife, Cadillac District Planner
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PLAN APPROVALS:



 Chief, Parks and Recreation Division

3/2/12
 Date



 Deputy Director, Natural Resources

3/9/2012
 Date

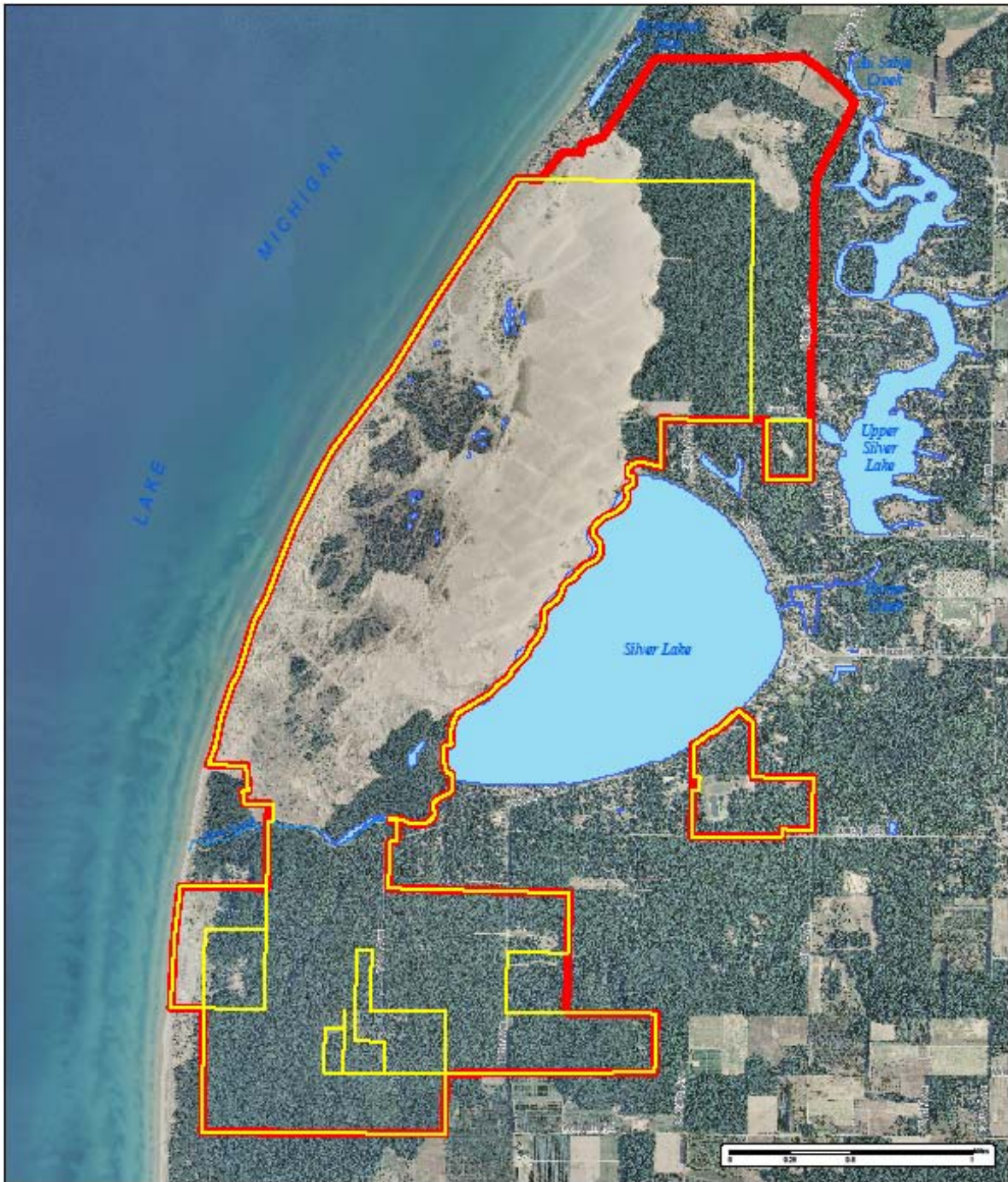


 Director, Michigan Department of Natural Resources



3/19/12
 Date



Silver Lake State Park



Legend

-  Park Ownership
-  2004 NRC Boundary



July 20, 2010

RESOLUTION NO. 02-2012-05

MICHIGAN STATE PARKS ADVISORY COMMITTEE (MSPAC)

RESOLUTION TO RECOMMEND APPROVAL OF THE “SILVER LAKE STATE PARK – PHASE 1 - GENERAL MANAGEMENT PLAN”

ADOPTED: FEBRUARY 9, 2012

WHEREAS, the Department of Natural Resources’ (DNR) Parks and Recreation Division has completed Phase 1 of the General Management Plan for Silver Lake 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 Silver Lake State Park; and

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

THEREFORE, BE IT RESOLVED, that the Michigan State Parks Advisory Committee recommends approval of the Silver Lake State Park – Phase 1 - General Management Plan; and

THEREFORE, BE IT FURTHER RESOLVED, that the Michigan State Parks Advisory Committee further recommends that the DNR Director approve the Phase 1 – General Management Plan for Silver Lake State Park; and

THEREFORE, BE IT FURTHER RESOLVED, that upon the DNR Director’s approval, the Parks and Recreation Division initiate the Phase 2 – Long Range Action Goals Plan for Silver Lake State Park.

Submitted by: Chris Graham, Chair, MSPAC Operations and Stewardship Subcommittee

Motioned by: Chris Graham
Seconded by: Todd Scott

Yeas: 9
Nays: 0
Abstained: 0
Absent: 7

This Resolution was adopted by the Michigan State Parks Advisory Committee at their February 9, 2012, meeting as Resolution No. 02-2012-05.

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EXECUTIVE SUMMARY

Management Planning is a defined strategic process within the Parks and Recreation Division Strategic Plan (2009), reflecting the following Goals and Objectives:

- Goal 1, Objective 1.2: “Strengthen, update, and implement Management Plans.”
- Goal 3, Objective 3.1: “Perform landscape level assessment of recreation opportunities in decision making.”
- Goal 8, Objective 8.1: “Continue to use the MSPAC (Michigan State Park Advisory Committee), MSWC (Michigan State Waterways Commission), NRC (Natural Resources Commission), SWC (Statewide Council), and Ecoregion Teams and partners to advise in PRD planning, policy development, and issue resolution.”

Silver Lake State Park (SP) is located on the western shore of Michigan approximately 36 miles north of Muskegon. Located in Oceana County, the park lies in both Golden and Benona Townships, and provides 3085 acres of public land, 1,600 acres of which is open sand dunes.

Long-range planning for Silver Lake SP began in December of 2005 as one of many parks statewide where a new planning philosophy was implemented. ‘Management Planning’, a comprehensive, resource-based process, is the Parks and Recreation Division’s (PRD) adaptation of the National Park Service’s planning methodology. In this process, attention is focused on the four principles of the PRD Mission Statement. To that end, the Management Team thoroughly inventories the park’s (1) natural resource values, its (2) historic/cultural resources, identifies the (3) recreational opportunities, and develops the (4) educational and interpretation opportunities.

With this knowledge base and the input of the ‘Planning Team’ (consisting of Department resource staff, stakeholders, and public), an ‘identity’ was established for the park. The key components that make Silver Lake SP unique are threefold:

First, Silver Lake SP was established with a gift of 25.19 acres from Carrie E. Mears in 1920 with the sole purpose of creating a park. Today, Silver Lake SP is 3,085 acres in size, offering access to over three miles of Lake Michigan shoreline (including the Little Sable Point Light Station, a historic landmark) and one mile of shoreline on Silver Lake. It has 1,600 acres of the most accessible and visible dunes in the Midwest, which include both open dunes and acres of mature forest. The dune ridges and valleys are mostly windblown sand and lack trees, scrub brush and dune grass. The Silver Lake Dunes are the largest fresh water shifting sand dunes east of the Mississippi River.

Second, Silver Lake SP offers an exemplary Great Lakes Barren, Northern Hardwoods, Open Dunes, Interdunal Wetland Communities and provides habitat for at least 3 endangered, threatened, or special concern plant and animal species, including: Pitcher's Thistle (*Cirsium Pitcheri*, special interest plant); Fascicled Broom-Rape (*Orobanche Fasciculata*, special interest plant); and the Dune Cutworm (*Euxoa Aurulenta*, special interest species).

Finally, in addition to camping, hunting, and other day-use activities, this park is known for its recreational opportunities on the sand dunes. 450 acres of open dunes are available as part of the 790 acre designated Off Road Vehicle (ORV) Area, and an additional area of open dunes provide the opportunity for the lease of seven miles of trail to the 'Mac Wood's Scenic Dune Rides' that provide another means of experiencing and appreciating this dune system.

The Management Zone Plan is found on page 21, and a thorough review of all seven zones accompanies that graphic. A condensed review of all the zones applied at Silver Lake SP is as follows: (Note: acreages provided are approximate)

Primitive Zone: The Primitive zone is characterized by open sand dune, and represents 1395 acres (45% of Silver Lake SP). This zone is natural in character, and managed only to allow dispersed and low-frequency use for low-impact recreational purposes, such as foot traffic. Within this zone lies the MNFI designated interdunal wetland complex, which will be rigorously preserved to maintain its natural integrity.

Natural Resources Recreation Zone: Totaling 935 acres (30% of the park), this zone includes the southern portion of the park, west shoreline of Silver Lake, and the beach at the Little Sable Point Light Station. The majority of this zone is characterized by rolling wooded terrain. More active recreation, with medium- to high-density use takes place here, with hunting and trail use for hiking, biking, and cross-country skiing. There remains an emphasis on resource quality over recreation, but higher levels of recreational use are allowed.

Developed Recreation Zone: This 41 acre zone (1%) is prescribed in two locations. The largest part of this zone is located on Silver Lake, and offers camping and day-use activities, including a boat launch facility. The second part of this zone is at the north end of the park and serves as the day-use entrance to Silver Lake Dunes. At this location, parking and picnicking services are provided in an area that receives high levels of visitation.

This zone features active recreation with higher-density use than in the Natural Resources Recreation Zone, especially in areas not designated for natural resource significance.

Visitor Services Zone: This 39 acre zone (1%) is located on the eastern side of the park where the campground is located. This zone encompasses the developed areas required for park administration and operations. It includes offices, contact

stations, maintenance facilities, and all related land base required to conduct the business of operating the park. Currently, the visitor service area (Park Headquarters and Shop) is located at the south end of the park on State Park Road; however, this plan recommends relocation of those functions to a more central location.

History Education Zone: This zone, totaling just over 5.3 acres of park land, includes the Little Sable Point Light Station, which is leased by the Sable Point Lighthouse Keepers Association. Education opportunities are plentiful here, and this aspect provides the focus of the zone. Cultural and historic resources are restored and interpreted for visitor understanding and enjoyment.

Off Road Vehicle (ORV) Zone: This ‘non-standard’ zone has been established to focus on the specific management requirements of the “Silver Lake State Park ORV Area” (see Appendix). The ORV Area is approximately 625 acres (20%), and has special rules to ensure that people enjoy this zone safely. This zone will be managed in a natural condition, with specific limitations on man-made intrusions and specific goals of maintaining natural vegetative cover and high water quality.

Mac Woods Dune Trail Zone (Overlay): This area is a ‘non-standard’ overlay on the Primitive Zone established to recognize the area that is used to offer the Dune Scooter ride over the Silver Lake dune system. In addition to meeting the specific provisions of the lease, this zone will be managed in a natural condition, with specific limitations on man-made intrusions and specific goals of maintaining natural vegetative cover, high water quality, and provision of educational and interpretive messages to the visitor on the dune system. The areas outside of the trail are designated Primitive Zone, and fall under the management guidance for that zone.

Scenic Zone (Overlay): This zone highlights areas of the park significant for their views of Lake Michigan and the Silver Lake dune field. As an overlay, this zone designation serves to preserve these special views. The underlying zones provide overall management guidance.

INTRODUCTION

Planning Process Overview – The Management Planning Process develops a series of planning steps, each built upon the previous, that keep all planning and action decisions focused on (1) the mission of the Parks and Recreation Division, and (2) the specific Purpose and Significance of the park.

There are four stages of planning, implemented in the following order:

- Phase 1 - General Management Plan (GMP): 20-year long-range goals
- Phase 2 – Long-Range Action Goals Plan: 10-year long-range action goals to achieve the goals set forth in the GMP
- 5-Year Implementation Plan: specific actions to be implemented by the park
- Annual Work Plan and Progress Report: what will be done this year and what progress was made on last year's plan

This is the **General Management Plan**, the first step in our planning process. In this stage of planning, we are defining what the park will look like in twenty years. What will be the condition of flora and fauna? How will we address historic and cultural resources? What recreational opportunities will be provided? What education and interpretation efforts will meet the visitor? What will guide the manager's operational decisions? What will be the visitor's overall experience?

A key tool of this plan is the identification of 'Management Zones' which define specific characteristics of the land, addressing management for:

- Natural features
- Historic/cultural features
- Education/interpretation
- Recreational opportunities

These four elements represent the primary elements of the PRD Mission Statement, and provide the primary guidance for both planning and management decisions. Within the parameters of this guidance, "Purpose" and "Significance" statements are developed for the park that establishes its unique identity and focus. No two parks are the same, and this emphasis is directed at ensuring that the differences found from park to park are acknowledged, highlighted, and celebrated.

Planning Objectives - The objective of this General Management Plan is to bring together Department staff, impacted and impacting stakeholders, and the public who use the park in a planning process that will define and clarify the unique 'Purpose' and 'Significance' of Silver Lake State Park. Collectively, we will reinforce those attributes in the planning and management decisions that impact the park through the implementation of the Management Zone Plan. Future action plans, whether focused on a development proposal, a resource improvement initiative, an interpretive program, or day-to-day management of the park will be guided by this General Management Plan.

PLANNING TEAM

Accomplishment of our planning objectives was and is dependent upon the valuable input provided by all members of the 'Planning Team'. Following are the names of those critical participants in this planning process:

<u>Name</u>	<u>Representing</u>
Troy Rife, Chair	PRD (DNR Parks& Recreation Division) - Cadillac District Planner
Paul Curtis	PRD – Park Management Plan Administrator
Ray Fahlsing	PRD – Stewardship Unit Manager
Glenn Palmgren	PRD – Stewardship Unit Ecologist
Scott Dice	PRD – Cadillac District Supervisor (retired)
Pete LundBorg	PRD – Silver Lake SP (SLSP) Manager (retired)
Brenda Mikula	PRD – Contract Specialist
Mike Mullen	PRD – Ludington SP Manager (retired)
Scott Lambert	PRD – Planning Student Assistant
Meredith Bohdan	PRD – Planning Student Intern
Danielle Glasgow	PRD - Planning Student Intern
Josh Pellow	PRD – Planning Assistant
Bryan Cross	PRD – SLSP Staff (retired)
Charlotte Kiefer	PRD – SLSP Supervisor
Dan Adams	PRD – SLSP Staff
Deborah Bronold	PRD – SLSP Staff
Jody Johnston	PRD – SLSP Staff
Matt Tonello	CGI/SIRC (Center for Geographic Imaging/Spatial Information Resource Center)
Jeff Greene	WLD (DNR Wildlife Division – retired)
Rich O’Neal	FD (DNR Fisheries Division)
Dave Price	FMD (DNR Forest Management Division)
Katie Campbell	FMD
Steve Kubisiak	FMD
Todd Neis	FMD
Tom Hoane	FMD
Warren Herring	FMD
Troy VanGeldren	LED (DNR Law Enforcement Division)
Alan Wernett	METD (DNR Marketing, Education, and Technology Division)
Michelle Hohn	L&WM (Land and Water Management Program)

Stakeholder Representatives

Bob Henry – Silver Lake Sand Dunes Area Chamber of Commerce
Chuck Persenaire, President – Silver Lake Dunes Corporation
Connie Cargill – Golden Township & Oceana County Drain Office
Craig Renny, Executive Director – Big Sable Lighthouse Keepers Association
Donald Walsworth – Golden Township Supervisor
Don Sparks – Memorial Nature Preserve, Little Sable Point
Ed Johnson – Silver Sands Lighthouse Keepers
Gary Dunham – Silver Lake Business Owner
Gayle Forner – Sahara Sands Subdivision
Gayle Sorensen – Oceana County Cross Country Ski Association & Crystal
Township Treasurer
Goeff Hansen – 100th District State Representative
Gerald VanWoerkom – 34th District State Senator
Jake Whelpley – Golden Township
Jamie Morton – Alliance for the Great Lakes
John Buckley, President – Golden Sands Lighthouse Association
John Foss, Managing Director – Oceana County Road Commission
Juanita Pierman – Village of Pentwater & Representing 100th District State
Representative - Geoff Hansen
Kenneth Klotz, Fire Chief – Hart-Golden Fire/Rescue Department
Larry Byl – Oceana County District 5 County Board Commissioner
Little Sable Point Association
Marijo Bakker – Oceana County Cross Country Ski Association
Marilyn Gipe, President – Upper Silver Lake Property Owners Association
Mark Forner – Sahara Sands Subdivision
Norm Myers – Oceana County Cooperative Extension Service
Pete & Beverly Wood, Concessionaires – Mac Wood's Scenic Dune Rides, Inc.
Richard Ranney, Chairman – Off-Road Vehicle Trails Advisory Board
Rich Tompkins – Beach Comber Subdivision, Oceana Cross Country Ski
Association
Robert Henry, Director – Silver Lake Sand Dunes Area Chamber of Commerce
Sharon Hedinger – Sahara Sands/Juniper Beach Subdivisions
Steve Flemming – Benona Township Supervisor
Tom VanLiere, President – Oceana County Cross Country Ski Association

CORE VALUES

Guidance for the General Management Plan stems from the Mission Statements of the Department and the Division, and the Purpose and Significance Statements that have evolved through the planning process. The core values found in these statements must be reflected in this long-range General Management Plan for Silver Lake State Park, and subsequently reflected in any shorter range action plans:

DNR Mission Statement - *"The Department of Natural Resources is committed to the conservation, protection, management, and accessible use and enjoyment of the state's environment, natural resources, and related economic interests for current and future generations."*

PRD Mission Statement - *"Acquire, protect, and preserve the natural, historic, and cultural features of Michigan's unique resources, provide public recreation and safe public access to the Great Lakes and inland waters of the State of Michigan, and provide educational and interpretation opportunities."*

The core values derived from these statements are that PRD will acquire, preserve and protect; (1) natural resources, (2) cultural resources, (3) provide public recreation, and (4) provide educational opportunities.

Park Purpose - Park purpose statements are based on park legislation, legislative history, special designations, and DNR policies. These statements reaffirm the reasons for which Silver Lake State Park was identified as part of the State Park system.

- 1920 – 25.19 acres gifted by Carrie Mears for the purpose of a State Park
- 1926 – Sand Dune Area deeded to state from Federal Government
- 1949 – Sand Dunes assigned to State Park System
- Preserve Unique Dune, Lake and Forested Properties
- Provide Public Recreation and Education
- Preserve Little Sable Point Light Station
- Dedicated ORV, Pedestrian and Commercial Dune use areas.

Park Significance - Park significance statements capture the essence of the park's importance to Michigan's natural and cultural heritage, its recreational offerings, and the educational and interpretive opportunities afforded. These statements describe the distinctiveness of Silver Lake State Park. Understanding these distinctions help managers make decisions that preserve those special resources and values necessary to accomplish the park's purposes.

- 1600+ acres of the most accessible and visible dunes in the Midwest.
- Outstanding views of sand dune system from numerous locations.
- One of the earliest lighthouses/navigational aids for lumber ships.

- Mac Woods Dune Rides, dune vehicle rental & personal vehicle use provide for a unique sand dune experience.
- Numerous opportunities ranging from camping, boating, fishing, hunting, swimming, hiking, x-country skiing, etc.
- Military vehicle, auto industry and private industry vehicle testing.
- Lighthouse viewing.
- Natural beauty of 3 miles of Lake Michigan shoreline, and 1 mile along Silver Lake.
- Regional family recreation opportunities & tourist destination.
- Significant regional economic benefit.
- Exemplary Great Lakes barrens, northern hardwoods, open dunes, and interdunal wetland communities.
- Habitat for rare plants and insects such as: Pitchers thistle (rare plant), fascicled broom-rape (threatened parasite), dune cutworm (special concern insect), and piping plover (State and Federal endangered).

Land Use & Legal Mandates/Restrictions - For all park General Management Plans, all legal mandates will be identified and will serve to further guide the development of the General Management Plan and subsequent Action Plans. For our planning purposes, the term “Legal Mandates” refers to not only state law, but also the administrative tools of “Policy” and “Directive” of the Natural Resource Commission, the Department, and Parks and Recreation Division. Examples include Wildlife Conservation Orders, Orders of the Director, and all other laws, commission orders, and rules or directives that apply to the park. Specific to Silver Lake State Park, the following legal mandates have been identified:

- PA 451 OF 1994, PART 741 - STATE PARK SYSTEM - NATURAL RESOURCE AND ENVIRONMENTAL PROTECTION ACT - This act is the re-codification of law that established the Michigan State Park System and defined the powers and duties of same. Notable in this law is Section 324.74102 which identifies the duties of the department and reinforces those core values cited above.

This section reads:

- (1) “The legislature finds:
 - (a) Michigan State Parks preserve and protect Michigan’s significant natural and historic resources.
 - (b) Michigan State Parks are appropriate and uniquely suited to provide opportunities to learn about protection and management of Michigan’s natural resources.
 - (c) Michigan State Parks are an important component of Michigan’s tourism industry and vital to local economies.
- (2) 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

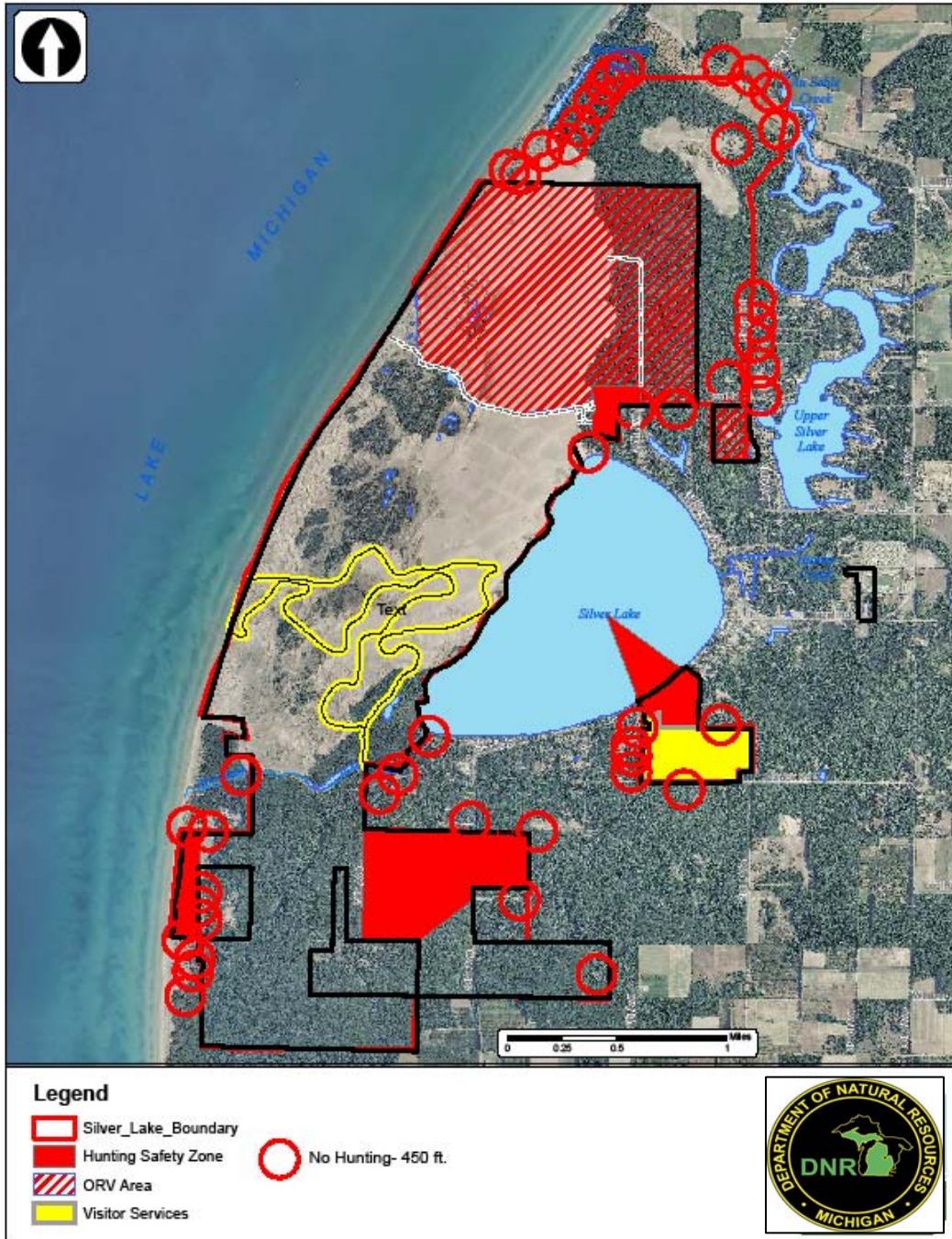
areas of natural beauty or historic significance, to provide open space for public recreation, and to provide an opportunity to understand Michigan's natural resources and need to protect and manage those resources.”

- PA 368 OF 1978, ARTICLE 12 - ENVIRONMENTAL HEALTH, PART 125 – CAMPGROUNDS – This Act was established to protect and promote the public health by establishing health code requirements specifically addressing campgrounds. The Department of Environmental Quality (DEQ), Drinking Water and Radiological Protection Division are the administering agency that is responsible for the promulgation of the Administrative Rules for Campgrounds.

All public (including DNR) and private campgrounds must meet these DEQ regulations.

- 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. The Recreation Passport is required for entry into all PRD administered facilities and takes the place of the Motor Vehicle Permit (MVP) previously required to be displayed on the windshield.
- PA 451 OF 1994, NATURAL RESOURCES AND ENVIRONMENTAL PROTECTION ACT (EXCERPT) – 324.41901 Regulation and prohibitions in certain areas; powers of department; area closures; hearings, investigations, studies, and statement of facts; regulations. – This part of PA 451 establishes the powers of the Department to establish safety zones for hunting. In accordance with the Administrative Rules established by Wildlife Division for hunting safety, a 450’ “Safety Zone” is established around all occupied dwellings (which includes campgrounds). Under the State Land Rules, the Department also has the authority to expand the application of this 450’ “Safety Zone” to encompass “Day-Use Areas” such as beaches, picnic areas, boat launches, and parking areas, should the need arise. This is determined on a case-by-case basis. At Silver Lake SP, the Hunting Safety Zones are represented below:

Hunting Safety Zones



July 20, 2010

- Specific vehicle equipment regulations and requirements are covered by the current the Department of Natural Resources Land Use Order of the Director (LUOD) for Silver Lake State Park. Additionally, no person shall operate a vehicle in violation of any provision of Part 811, Off-Road Recreational Vehicles, of the Natural Resources and Environmental Protection Act, Act 451 of the Public Acts of 1994, being Section 324.81101 to 324.81150 of the Michigan Compiled Laws. The current LUOD reads in part:

By authority conferred on the Director of the Department of Natural Resources by Section 504 of Act No. 451 of the Public Acts of 1994, as amended, being section 324.504 of the Michigan Compiled Laws and in accordance with R 299.671 and R 299.922 of the Michigan Administrative Code, the Director of the Department of Natural Resources orders that the following order of the Land Use Orders of the Director shall read as follows:

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 or recreation area:

(1) Possess or use fireworks in a manner prohibited by section 243a of Act No. 328 of the Public Acts of 1931, being § 750.243a of the Michigan Compiled Laws.

3) Operate an unlicensed, wheeled motorized device capable of transporting a person on a park road or parking lot, unless otherwise permitted by posted notice. Use of such devices shall be permitted for individuals with mobility impairments.

History: Iss. Sept. 17, 1993; Am. 10, 1995, Post Oct. 23, 1995; Am. 16, 2007, Post Oct. 12, 2007.

5.2 Possession or consumption of alcoholic beverages in certain state parks and recreation areas, prohibited conduct.

Order 5.2 A person shall not do any of the following:

5) Possess or consume an alcoholic beverage within the following described locations from May 15 through June 10:

(a) Silver Lake SP - entire park

5.9 Off-road vehicles, Silver Lake State Park Off-Road Vehicle (ORV) Area, conditions for use, prohibited conduct.

Order 5.9 A person shall not do any of the following on all state lands of Silver Lake State Park posted as the ORV Area, Oceana County:

- (1) Operate an ORV from November 1 through March 31.
- (2) Operate an ORV from April 1 through May 15 between the hours of 8:00 p.m. and 9:00 a.m.
- (3) Operate an ORV from May 16 through Labor Day between the hours of 10:00 p.m. and 9:00 a.m.
- (4) Operate an ORV from the day following Labor Day through October 31 between the hours of 8:00 p.m. and 9:00 a.m.
- (5) Operate any motor vehicle with four or more wheels that does not contain a seat and individual seat belt for each occupant of that vehicle. Those vehicles with automotive-type seating and fewer than four wheels shall be equipped with a seat belt for each occupant. Vehicle operators shall comply with the provisions of the Michigan child passenger safety law, MCL 257.710d, and all of the following provisions:
 - (a) Seat belts shall be in use by all occupants while the vehicle is in operation.
 - (b) An approved automotive manufactured restraining device, such as a lap belt or three- or four-point harness, is an acceptable seat belt.
 - (c) Seat belts and restraining devices, other than factory installed, shall be secured by bolting to the vehicle floor, frame, or roll bar.
 - (d) Any vehicle on which the operator straddles the seat, such as a motorcycle or an all-terrain vehicle (ATV), will be limited to the operator only as the sole occupant and no seat belt will be required.
- (6) Operate a vehicle requiring seat belts where an occupant in the rear seat is not protected by a roll bar located immediately behind the occupant's seat as described in (8) unless the rear seat occupant(s) is wearing on his or her head a crash helmet approved by the United States Department of Transportation (DOT). The operator of a vehicle that is straddled and not required to meet the seat belt specifications will wear a crash helmet and protective eyewear approved by DOT.
- (7) Operate a vehicle requiring seat belts without a warning flag mounted and extending over the front-most portion of the vehicle. Vehicles not requiring seat belts shall mount the warning flag on the rear of the vehicle. Vehicle operators shall comply with all of the following requirements:
 - (a) The warning flag shall be mounted on a staff that is securely bolted or welded to the vehicle. The warning flag shall maintain a minimum 10-foot height at standstill and a minimum 8-foot height under motion.

(b) The warning flag shall be mounted on the top-most end of the staff. The flag shall be rectangular, international orange in color, solid material, with a minimum length on the supporting side of five inches and a minimum length on the base side of 10 inches.

(8) Operate a vehicle requiring seat belts that is not equipped with an integral steel roof, or roll bar located immediately behind the operator, or roll cage, capable of supporting the weight of the vehicle. The operator and occupants of a vehicle without a full front windshield shall wear protective eyewear. The operator of a vehicle equipped with a roll bar shall comply with all the following requirements:

(a) The roll bar shall be welded or bolted to the floor or frame of the vehicle.

(b) The roll bar shall be braced in such a manner as to prevent collapse.

(c) The roll bar shall have clearance above, behind, and outside each seated occupant in the vehicle.

(9) Fail to submit to any of the following tests, or operate any vehicle that does not comply with all of the following:

(a) Vehicles shall be equipped with a muffler and spark arrester containing baffles, shall meet the muffler and spark arrester requirements specified in subsection (g) of section 81133 of Part 811, Off-Road Recreational Vehicles, of the Natural Resources and Environmental Protection Act, Act 451 of the Public Acts of 1994, being Section 324.81133(g) of the Michigan Compiled Laws and shall successfully pass a muffler and spark arrester baffle test. A vehicle shall successfully pass a muffler and spark arrester baffle test by preventing passage of a flexible, plastic rod, no larger than 3/8-inch in diameter, through the muffler and spark arrester when inserted through the exhaust outlet.

(b) A maximum noise level of 94 Db(A), or the current EPA emissions limit, shall be met. The testing provisions of current SAE J 1287, June 93 standard for ATV and motorcycle vehicles and SAE J 1169, March 93 for all other vehicles shall be followed and all vehicles shall pass a stationary sound level test. The stationary sound level test shall be administered from a 0.5 meter (19.69 inches) distance at one-half the engine's maximum rated RPM and as further described by current testing provisions for the particular vehicle.

(10) Operate any vehicle at any time without possessing a valid operator's or chauffeur's license, except as follows:

(a) A person at least 12 years of age, who has in his or her immediate possession a valid ORV safety certificate issued by this state or a comparable ORV safety certificate issued under the authority of another state or a province of Canada, may operate either an ATV or motorcycle while under

direct visual supervision, from a distance of not more than 50 feet, of a parent or adult guardian. Adults, with an ORV safety certificate, may operate an ATV or motorcycle unless otherwise prohibited.

(b) A parent or legal guardian of a child 12 years of age to less than 16 years of age shall not permit the child to operate an ORV unless the child is under direct visual supervision, from a distance of not more than 50 feet, of an adult and the child has in his or her immediate possession an ORV safety certificate issued by this state or a comparable ORV safety certificate issued under the authority of another state or a province of Canada.

(11) Operate any type of vehicle and fail to present an operator's or chauffeur's license or ORV Safety Training Certificate upon the demand of any law enforcement officer or State Park personnel.

(12) Enter or use the ORV Area without complying with all posted regulatory, zoning, or directional signs, or operate a vehicle except in the directional pattern established and marked within the ORV Area.

(13) Enter or use the ORV Area without obtaining and displaying a valid ORV Area Parking Lot Voucher or Dune Ready Voucher at any time when such requirement is posted.

(14) Operate any vehicle while towing a contrivance other than a disabled vehicle or trailer, or tow a vehicle or trailer on other than the designated parking lot or paved entrance road without first obtaining proper written permission from the department. Passengers shall not occupy any trailer or disabled vehicle while it is being towed.

(15) Drive or operate any motor driven vehicle at speeds exceeding 15 mph or perform exhibition type driving within the parking area or entrance road to the ORV Area. Exhibition driving means: performing wheelies, spinning tires, cutting circles, jump starts, or other erratic or irresponsible driving.

(16) Possess or consume an alcoholic beverage at any time in the ORV Area, ORV Voucher Center Area, or any area extending one-quarter of a mile from the boundary of the ORV Area.

History: Iss. Sept. 17, 1993; Am. 6. 1994, Post May 15, 1994; Am. 4, 1995, Post Apr. 1, 1995; Am. 4, 2000, Post Apr. 1, 2000; Am. 2, Post Apr. 13, 2002; Am. 5, 2005, Post Mar. 11, 2005.

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 state parks and recreation areas:

(9) A person shall not do any of the following within Silver Lake SP without first obtaining proper written permission from the department:

(a) Store, leave, park or otherwise place any boat, fish shanty, vehicle, bicycle, equipment, tool, device or other property which is at any time during its presence in the park made available for rent, lease, or sale.

(b) Use or occupy any land or water within the park to solicit, conduct, operate, engage in, or maintain a business of any nature or use such areas as a base of commercial operations. For purposes of this order, "base of operations" means a use of lands or waters which is a principal or significant aspect of any commercial activity.

Dedicated Boundaries – The Natural Resources Commission reviewed and rededicated boundary changes for Silver Lake State Park in 2004.

Other Legal Mandates/Restrictions – (NOTE: refer to specific documents)

- Concession Contract – Mac Wood’s Dune Rides (through 11/30/2010)
- Lease – Little Sable Point Light Station (through 10/31/2030)
- Lease – ORV Rental Business (through 3/31/2011):
 - Silver Lake Buggy Rentals
 - Parrot’s Landing
 - Wild Bill’s Quad Rentals
 - Razor J’s
- DNR - Five Year Maintenance Permits (through 5/12/2013)
 - Silver Lake Boating Access Site
 - Mac Woods on Dunes: Dune Access Parking Lot
 - Off-Road Vehicle Area
 - Little Sable Light Station and Beach
- DNR – Critical Dune Legislation
- Archaeological Sites and Geological Reviews
- Oceana County Road Commission – Right of Way Exceptions

- Utility Easement – Great Lakes Energy, Verizon, Shell Propane
- Informal Agreements – Local Property Owners

GENERAL MANAGEMENT PLAN

With guidance of the Silver Lake State Park Planning Team (inclusive Department participation) and input from our stakeholders and the public, the park 'Purpose and Significance Statements' were drafted and adopted. This established an identity for Silver Lake State Park that highlights this unique 3,085 acre park which includes 1,600 acres of the most accessible and visible dunes in the Midwest and largest shifting sand dunes east of the Mississippi River; the ecological importance to the different land cover, communities and endangered, threatened, or special concern plant and animal species; and the special recreation and education opportunities that follow these important qualities of this park.

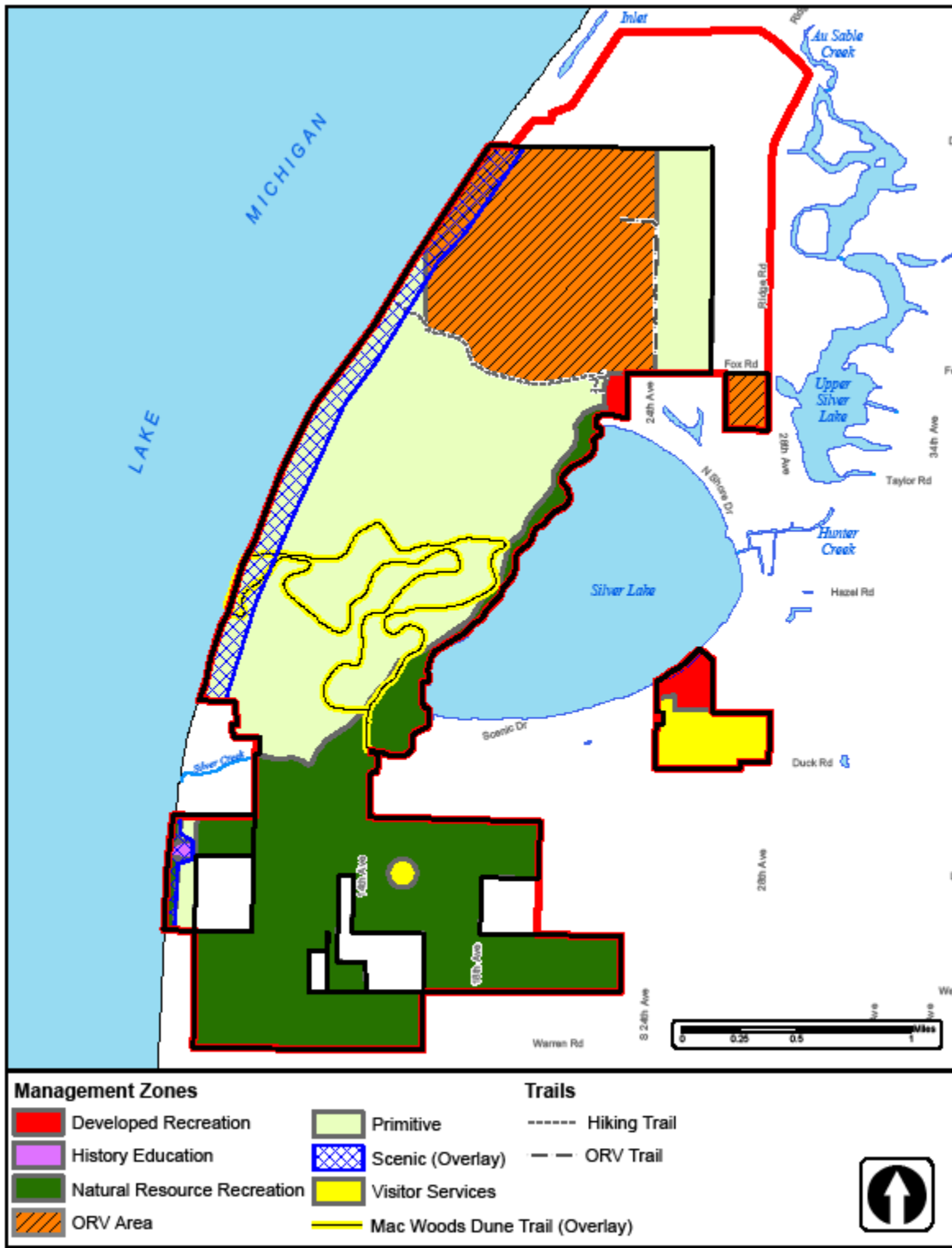
Based on this 'identity' for the park, a Management Zone Plan was subsequently drafted and adopted with stakeholder support and no public objection. The Management Zone Definitions apply to each zone used, with special considerations highlighted in the following descriptive narratives of management guidance for each zone of the park.

In concert with this analysis of the park, the Planning Team also established the appropriate Management Zones and their extent of influence on the park. From a pallet of nine standard zones, six were applied to Silver Lake State Park. Two 'non-standard' zones were created: the 'Off Road Vehicle (ORV) Zone' to address specific management requirements of that designated section of sand dunes, and the 'Mac Woods Lease Zone' to address the lease agreement of seven miles of trail to Mac Woods Scenic Dune Rides, Inc.

The rugged, natural, wilderness-like conditions of the park ecosystem extends beyond its historic boundaries. As properties are acquired within the new boundaries (and/or with the expansion of park boundaries) the appropriate zoning will be determined and applied.

The Management Zone Plan and a thorough review of all zones applied at Silver Lake State Park are as follows: (Note: acreages given are approximate)

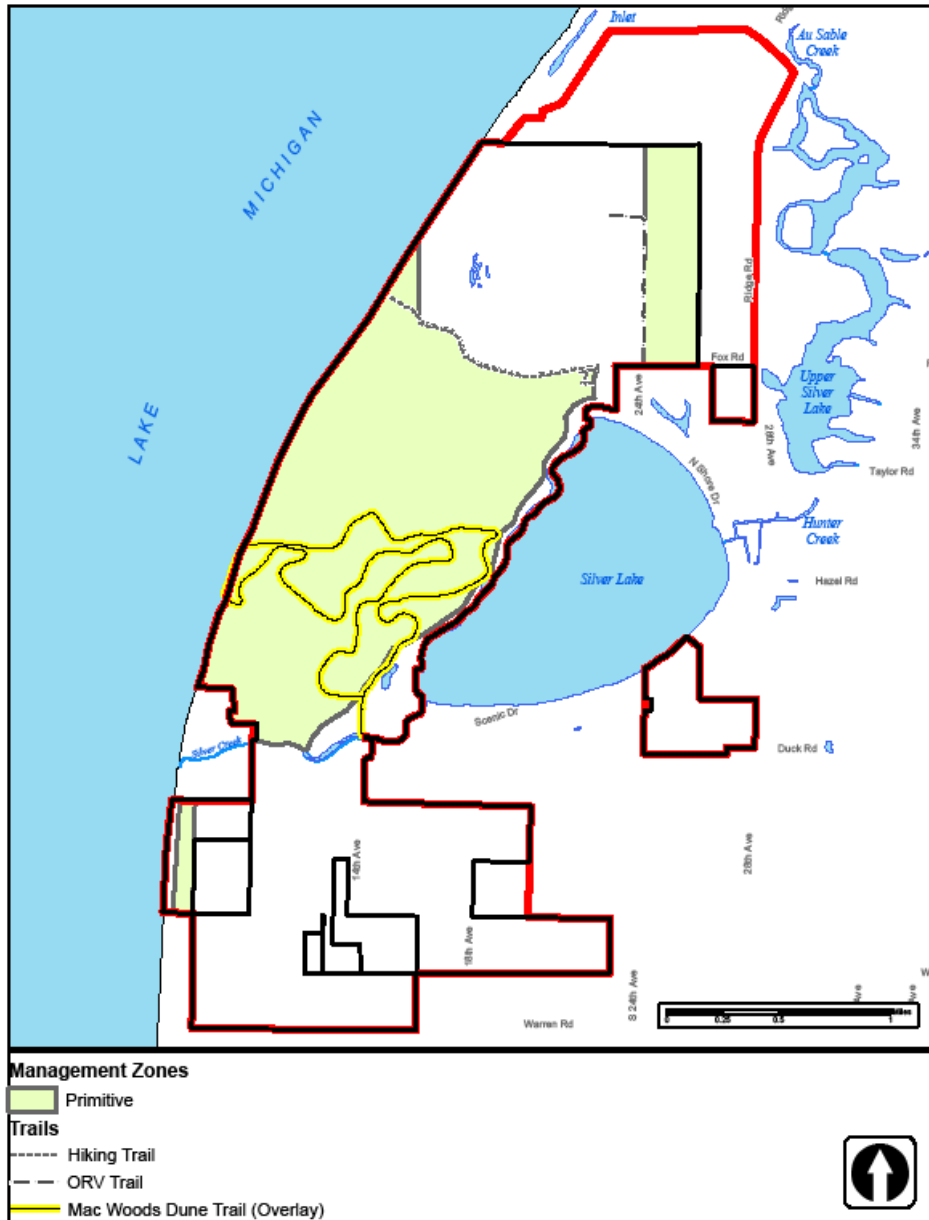
Management Zone Plan



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Primitive Zone

Located in the western area of the park and the area east of the Off Road Vehicle (ORV) Zone, the Primitive zone is characterized by open sand dune, and represents 1395 acres and 45% of Silver Lake SP. This zone reflects a desired condition that emphasizes the park's unique natural resources, managed only to allow dispersed and low-frequency use for low-impact recreational purposes, such as foot traffic. Within this zone lies the MNFI designated interdunal wetland complex, an ecologically diverse resource, which will be rigorously preserved to maintain its natural integrity.



Additionally, at the south end of the zone lies the Mac Woods Dune Trail (zone overlay), which offers visitors an opportunity to experience the dune habitat by vehicle and guided tour. The Mac Woods lease is only for the designated seven mile trail route; the remaining area will be classified as 'Primitive'. Attaining and maintaining a high quality natural resource condition dictates the extent to which recreational improvements or uses are allowed. No mountain bike or equestrian uses will be permitted.

Following are the prescribed qualities for the Primitive Zone:

- Natural Resources - This zone is characterized primarily by steep, active sand dune, and will reflect natural processes. Vegetative management will only be permitted to restore and maintain natural ecological structure, such as removing invasive species, addressing hazard trees, and managing pests and disease. Native species and natural processes will take precedence over visitor accommodation, except in the area of the Mac Woods lease overlay, where motor vehicle use is allowed only on the designated trail for the Mac Woods Dune Ride.
- Historic/Cultural Resources - Overlapping at the south end of the park with the Primitive Zone is the History/Education Zone, which encompasses the area surrounding the Little Sable Point Light Station. Please review the History Education Zone for more information.

Any historic or cultural resources identified in the Primitive zone would be preserved, removed, or allowed to deteriorate.

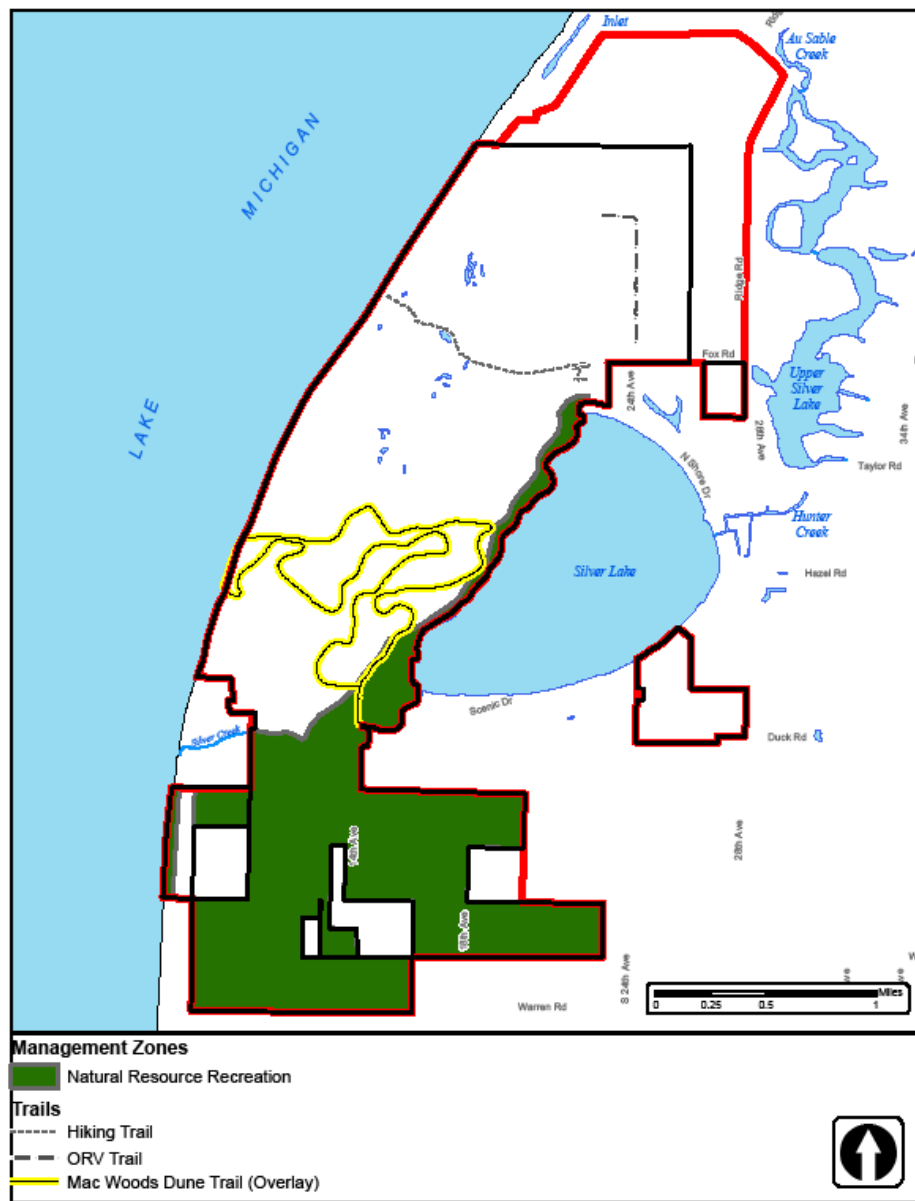
- Recreational Opportunities - Because the focus of this zone is to maintain and restore the unique natural systems, only low-impact forms of recreation, such as hiking, hunting, birding, and fishing will be permitted. This area is ecologically diverse, and hikers and birders may observe Chickadees, White-breasted Nuthatches, red foxes, and even coyotes. Hunting is permitted in this zone; the interdunal wetland area is wooded, and provides an ideal habitat for deer, squirrel, and other game animals. Additionally, the Mac Woods Dune Trail opens access to the dunes to all visitors.
- Education Opportunities - Information regarding the historical and natural communities can be made available at areas of congregation, and fortified through educational opportunities in this zone, such as informational signage and kiosks at trailheads and parking areas.

Placing interpretive material--such as wildlife guidebooks--at trailheads or near parking lots, will allow the low-impact user to experience the rich diversity of the landscape at one's own leisure. The Mac Woods Dune Trail (Overlay) offers an excellent opportunity for all park visitors to experience the dune habitat through a guided vehicular tour.

- Visitor Experience - The Primitive Zone will exhibit a largely 'natural' feel, with a significant sense of solitude and minimal man-made improvements. However, visitors can expect to encounter others more often in the beach area surrounding the Little Sable Lighthouse and the Mac Woods Dune Trail area.
- Management Focus - Management of this zone will be focused on maintaining the low-impact character of the area while emphasizing natural resource quality. It is also management's goal to acquire additional lands (inholdings) within the park boundary in the future.
- Development - Only trail improvements such as access points, trailheads, interpretative kiosks, and signage provide evidence of man-made elements in this zone. Any improvements necessary for resource protection, such as erosion control, shall be 'natural' in character. The focus is to maintain as little evidence of human activity as possible, and all development must meet the approval requirements of the planning process.

Natural Resource Recreation Zone

This zone encompasses 935 acres (30% of park land) that form the southern portion of the park and the west shoreline of Silver Lake. The beach at the Little Sable Point Light Station is also included in this zone, as this area is very popular for beach activity and swimming. The majority of this zone is characterized by rolling wooded terrain. More active recreation, with medium- to high-density use takes place here, with hunting and trail use for hiking, biking, and cross-country skiing. Other activities include dispersed recreation for mushrooming, birding, and other low impact uses. There is still an emphasis on resource quality over recreation, but higher levels of recreational use are allowed.



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Following are the prescribed qualities for the Natural Resource Recreation Zone:

- Natural Resources - This zone will reflect natural processes, with vegetative management only permitted to restore and maintain natural ecological structure, such as the removal and control of invasive species. Vegetation may also be managed for soil stabilization, recreational use facilitation, and the maintenance of an aesthetically appealing landscape. Hazard trees will also be managed, as well as pests and disease. Generally, the natural resources in this zone can be modified to support visitor activities, provided they are consistent with other identified values.
- Historic/Cultural Resources - Any historic or cultural resources identified in this zone would be preserved, removed, or allowed to deteriorate. Historic structures could be adaptively used for operational uses or educational purposes.
- Recreational Opportunities - This zone is utilized for general recreation, including birding, beach activities, hunting, fishing, and trail usage (hiking, biking, cross-country skiing, etc). From stakeholder and public input, there is a recognized potential for expansion of trails for mountain biking and cross-country skiing. The introduction of overnight accommodation in this zone will be investigated as well. Overall, recreational opportunities will be more developed than in the Primitive Zone.
- Education Opportunities - Information regarding the historical and natural communities can be made available at areas of congregation, and fortified through educational opportunities in this zone, such as informational signage and kiosks at trailheads and parking areas.
- Visitor Experience - The visitor can expect to encounter others more routinely, especially during the summer months, and on the trails. In addition, private inholdings lay within this zone and park visitors should expect to encounter dwellings and related private landowner activities.
- Management Focus - Management of this zone will focus on minimizing potential user conflicts, especially in light of private inholdings within the zone. As private lands within the park boundary are offered for sale (on a willing seller basis), the park manager will notify the PRD Lands Manager to pursue acquisition. Existing inholdings may be acquired to fill in gaps within the designated NRC boundary; however, these properties are not zoned until they are officially park lands.

This plan proposes relocation of visitor service operations to the campground area in order to better serve park visitors. The current visitor service area could then be re-purposed to support trail and other zone use activities. Management and Planning staff will investigate the opportunity to introduce overnight accommodations in the zone, including on the north side of Silver

Creek, and perhaps re-opening the group camp area. The area north of Silver Creek would require the upgrade or replacement of Ruckles' Bridge.

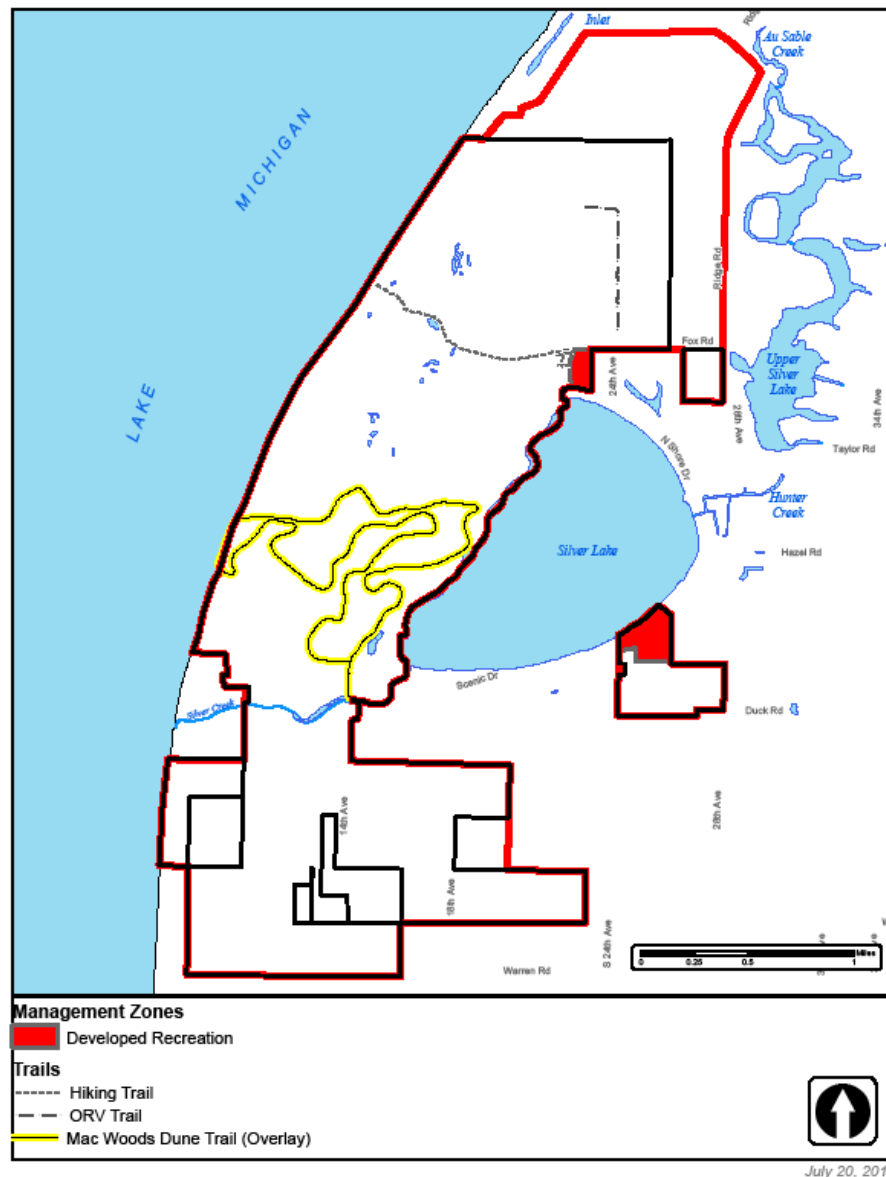
Park staff will discuss with the Oceana County Road Commission, permanent or seasonal closure of those sections of Baseline Road and Silver Lake Drive that go through the zone and that would not conflict with current private use. The desired result of this is to open up those two-track roads for improved trail use.

- Development - Because recreational and other uses are encouraged in this zone, moderate levels of development are to be expected. With stakeholder input and assistance, park management will seek to undertake trail improvements to better serve park guests.

Developed Recreation Zone

This 41 acre zone is prescribed in two locations, and represents 1% of the park. The largest part of this zone is located on Silver Lake, and offers camping and day-use activities, including a boat launch facility. The second part of this zone is at the north end of the park and serves as the day-use entrance to Silver Lake Dunes. At this location, parking and picnicking services are provided in an area that receives high levels of visitation.

This zone features active recreation with higher-density use than in the Natural Resources Recreation Zone, especially in areas not designated for natural resource significance. In this zone, recreation dominates, with natural resource attributes enhanced as possible, especially for aesthetic purposes.



- Natural Resources - Recreation takes precedence over natural resources in this area, and therefore can be modified as necessary to enhance the visitor experience, provided the project is consistent with other identified values. Vegetative management will address hazard trees, invasive species, and pests and disease. Vegetation may also be managed to facilitate recreational use and to maintain an aesthetically appealing landscape.

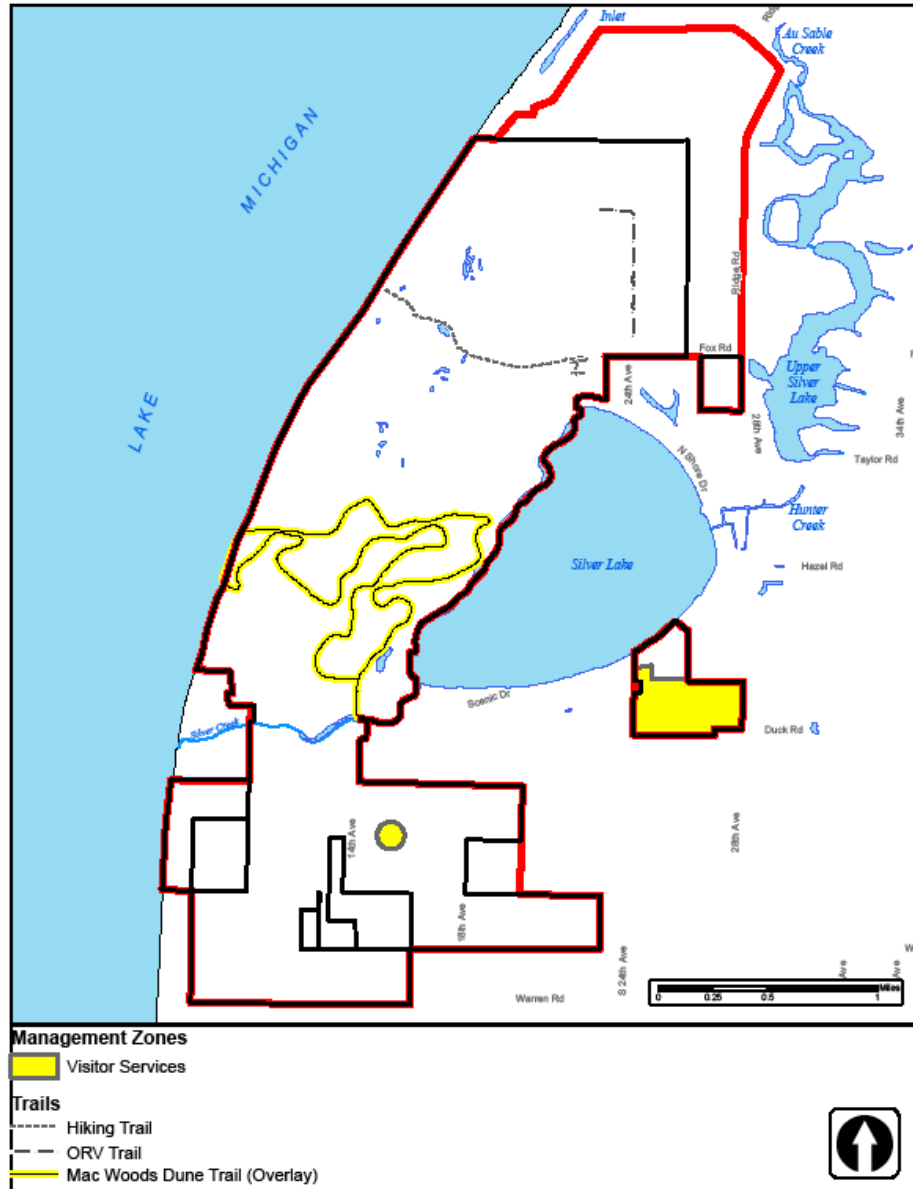
The shoreline of Silver Lake at the campground/day-use area is (and has been) eroding. Stabilization options will be explored.

- Historic/Cultural Resources - In this zone, developed recreation takes precedence over other resources. However, any cultural resources identified would be preserved, rehabilitated, or removed. Historic structures could be adaptively used for operational uses or educational purposes.
- Recreational Opportunities - This zone is used for general high-use recreation, which includes camping, boating, and day-use activities. Potential exists for expansion of overnight accommodations. Currently, there are plans for relocation of the boat launch facility to the north border of the zone to increase beach access for day users.
- Education Opportunities - Because of the high number of visitors to this zone, the opportunities for visitor education are plentiful. Information regarding the historical and natural communities can be made available at areas of congregation, and fortified through educational opportunities in this zone, such as informational signage and kiosks at trailheads and parking areas. Additionally, more interactive educational programs could be implemented in this zone, such as the Explorer Guide program.
- Visitor Experience - The park visitor to this zone can expect to make a large number of contacts with others, especially during the summer months.
- Management Focus - The management of this zone will focus on minimizing user conflicts and enhancing recreation opportunities. Expansion of the campground will be studied along with relocation of the Visitor Services function to this area. Additionally, stabilization options for the shoreline erosion reported at Silver Lake will be explored.
- Development - Development goals in this zone will be more extensive than in the Natural Resources Recreation Zone, and mainly to enhance recreation opportunities and visitor services. Improvement of day use, such as through the expansion and development of such amenities as picnic tables, playground equipment, and boat launch will be undertaken. This will also include expanded parking for the dune access area.

Relocation of the Visitor Services functions to this area may impact the existing campground and cause relocation/expansion of (some of) the campground.

Visitor Services Zone

This 39 acre (1% of park) zone is located on the eastern side of the park where the campground is located. Currently, the visitor service area (Park Headquarters and shop) is located at the south end of the park on State Park Road. This plan recommends relocation of those functions to a more central location. The park Headquarters area will receive high levels of traffic throughout the year, especially during the summer months.

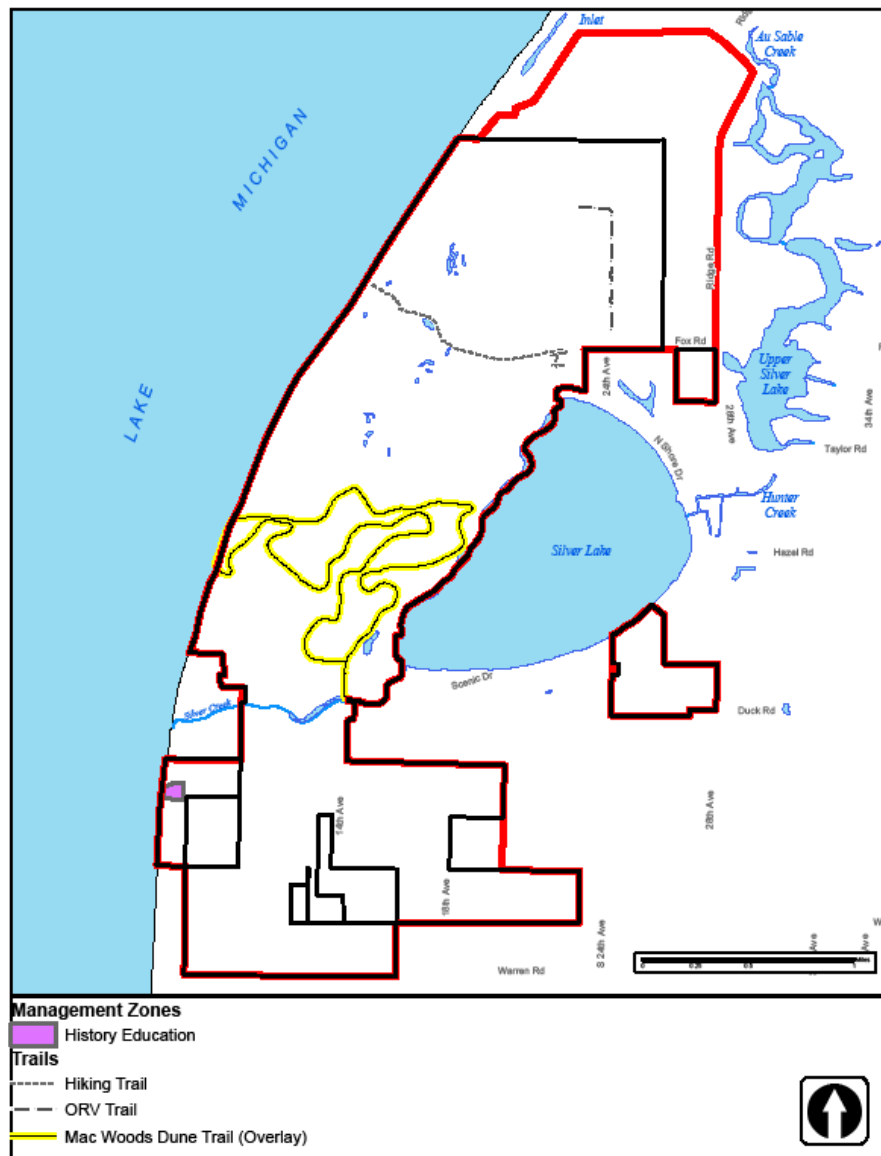


- Natural Resources - Administrative uses dominate in this zone, and as a result, natural resources will be modified to accommodate these activities. Vegetation may be managed for soil stabilization, to facilitate administrative use, and to maintain an aesthetically appealing landscape. Hazard trees will also be managed, as well as pests and disease.
- Historic/Cultural Resources - Generally, visitor and administrative services take precedence over all other activities in this zone. However, any cultural resources identified would be preserved, rehabilitated, or removed. Historic structures could be adaptively used for operational uses or educational purposes.
- Recreational Opportunities - Recreational opportunities are minimal, as the main directive in this zone is to carry out park operations and disseminate park information.
- Education Opportunities - Here, park visitors can receive information regarding activities in other areas of the park, such as campsite information, trail guides, and ORV Area information.
- Visitor Experience - Visitor activities involve park business and information only. Visitors can expect moderate to high interaction with others, including park staff.
- Management Focus - The management of this zone focuses on park operations and information distribution. Park management is planning on relocating the Visitor Service Center on the south end of the park on State Park Road to this zone to better serve park visitors and to strengthen management efficiencies with this more central location.
- Development - A high level of development, especially for administrative facilities, is permitted in this zone. This includes the proposed move of the Visitor Service Center from the south end of the park to this zone.

History Education Zone

This zone is located at the southwestern portion of the park along Lake Michigan, and includes The Little Sable Point Light Station, which is leased by the Sable Points Lighthouse Keepers Association. As represented on this plan, the zone totals just over 5.35 acres of land. An archaeological study is soon to begin which, when completed, will provide the definitive scope of the zone. The results of that study will establish the footprint of the History Education Zone.

Education opportunities are plentiful here, and this aspect provides the focus of the zone. Cultural and historic resources are restored and interpreted for visitor understanding. High levels of development are common in this zone for management and control of both vehicle and foot traffic, protection of resources, and historical interpretation.



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- Natural Resources - This zone will reflect natural processes, with vegetative management permitted to restore and maintain natural ecological structure, such as the removal and control of invasive species. Vegetation may also be managed for soil stabilization, to facilitate recreational use, and to maintain aesthetic value surrounding the Little Sable Light Station. Hazard trees will also be managed, as well as pests and disease. Generally, the natural resources in this zone can be modified to support visitor activities, provided they are consistent with other identified values.
- Historic/Cultural Resources - The History Education Zone encompasses the Little Sable Point Light Station, and provides an excellent opportunity for visitors to experience the area's history. The 107' tower, which is still active today, was completed in 1874, along with a dwelling for the lighthouse keeper and lean-to for wood. However, in 1955, everything but the tower was torn down when the station became unmanned. Visible for about 19 miles, the Little Sable Point Light Station tower is claimed to be the tallest brick light tower on the Great Lakes, and the only historic structure standing in Silver Lake State Park today (for more information, see the Supporting Analysis for Silver Lake SP).
- Recreational Opportunities - Recreational opportunities are varied within this zone, and include beach-going, hiking, and other day-use activities. The major attraction, however, is the Little Sable Point Light Station, which visitors can tour (accompanied by a guide) during the summer months.
- Education Opportunities - The Little Sable Point Light Station offers tremendous educational opportunities for park visitors. Informational kiosks located at the parking lot and entrance to the Light Station could offer visitors a historical overview of the area, and guided tours of the tower are frequently conducted.
- Visitor Experience - The historic and cultural features in this zone are unique to the area, and would be appreciated by visitors with an interest in history. Given the vision of an ever evolving interpretative display, the visitor should be pleased to participate in a variety of entertaining, educational, and social activities, with frequent contacts with others.
- Management Focus - The management of this zone has been and will continue to be a partnership between Park Management and the Sable Point Lighthouse Keepers Association. This group, along with the Oceana County Lighthouse Seekers group, conducts tours of the tower during the summer months, and is involved with the restoration and interpretive projects surrounding the Lighthouse. Park management highly values these relationships and anticipates their continued partnerships in the future.

- Development - A higher level of development, especially surrounding the Little Sable Light Station, is expected in this zone. A 2010 Coastal Zone Management (CZM) grant helped to fund parking and walkway improvements.



Lighthouse and new walkway



New walkway



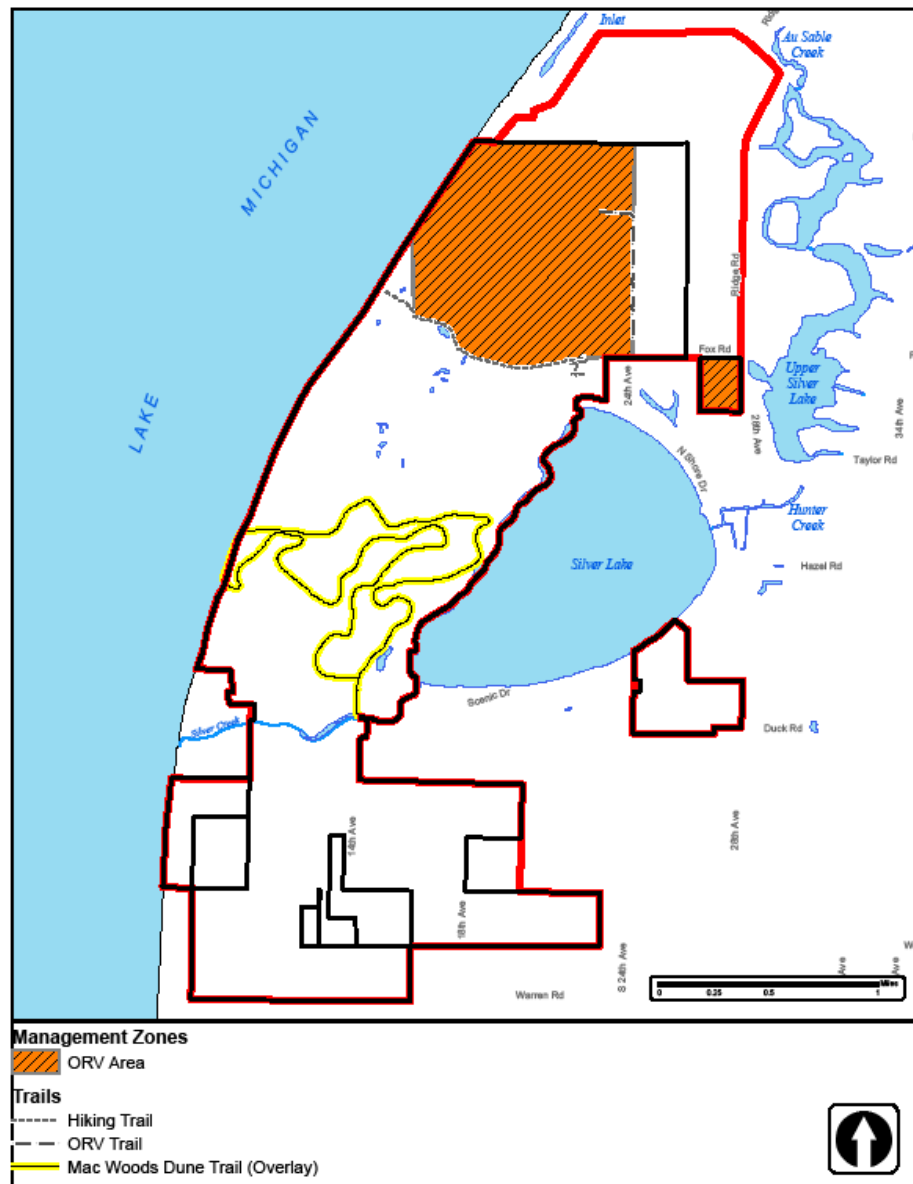
Walkway and parking improvements



Walkway and parking improvements

Off Road Vehicle (ORV) Zone

This 'non-standard' zone has been established to focus on the specific management requirements of the "Silver Lake State Park ORV Area" (see Appendix). The ORV Area is approximately 790 acres, or 25% of the park. This zone is approximately 450 acres of open dune, and has special rules to ensure that people enjoy this zone safely. The **ORV Voucher Center** and parking lot are located within this zone. This zone will be managed in a natural condition, with specific limitations on man-made intrusions and specific goals of maintaining natural vegetative cover and high water quality.



- Natural Resources - This zone is primarily used for off road vehicle (ORV) riding, which is a highly invasive recreational activity, and takes precedence over the majority of the natural features. Natural resources will be modified as necessary to enhance rider's enjoyment of the zone, with the exception of the foredune habitat restoration areas, which will be protected.
- Historic/Cultural Resource - There are no identified cultural resources within this zone.
- Recreational Opportunities - This zone is used predominantly for ORVs. From April through October (annually), visitors can access this zone by acquiring a free use-voucher at the ORV Voucher Center, and participate in day-use ORV activities.
- Education Opportunities - ORV riding can be a fun and educational opportunity for the park visitor. The sand dunes are constantly shifting, while wetland habitat is interspersed throughout the area. Experiencing the dunes in this way can offer the visitor the opportunity to learn more about this dynamic and exciting habitat. Informational kiosks regarding the dune habitat and ORV safety could be placed at the ORV Voucher Center for the visitor's convenience.
- Visitor Experience - During the summer months, the ORV Zone will become particularly congested, especially on weekends and holidays, due to the popularity of the activity. Safety should be a priority, and such information is disseminated throughout the ORV Zone.
- Management Focus – This recreational pursuit is not without risk. Management of the ORV Area highlights safety considerations, such as clear communications with users regarding rules, proper equipment and use, and etiquette. Existing leases with private ORV providers must be monitored for compliance. Since the focus within this zone is recreation, natural resources and administrative facilities will be modified to accommodate this purpose. Park management will pursue opportunities for online voucher registration for the convenience of the ORV user.

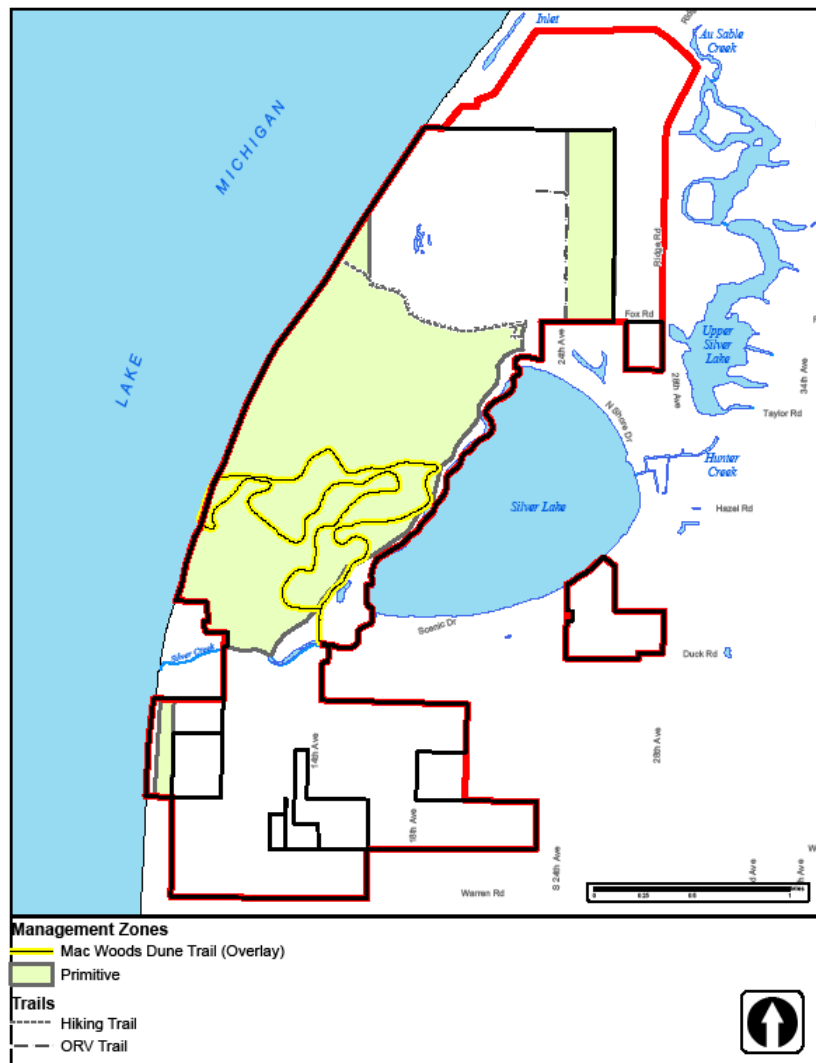
The interdunal wetlands interspersed throughout the ORV area will be protected by restricting vehicle access. These wetlands are a valuable natural resource, and Park management is looking to protect and preserve these areas.

- Development - A high level of development can be expected in the ORV Zone, but primarily in the parking/staging and voucher areas. The dunes themselves are left alone to provide the natural dune experience, which is highly variable.

Mac Wood's Dune Trail Zone (Overlay)

This area is a 'non-standard' overlay on the Primitive Zone established to recognize the area that is used to offer the seven mile dune scooter ride over the Silver Lake Dune system. In operation for over 80 years, Mac Woods Dune Rides offers interpretation of the dune environment during their adventure ride. Patrons of this attraction will learn about the flora, fauna, history, and how the area was developed.

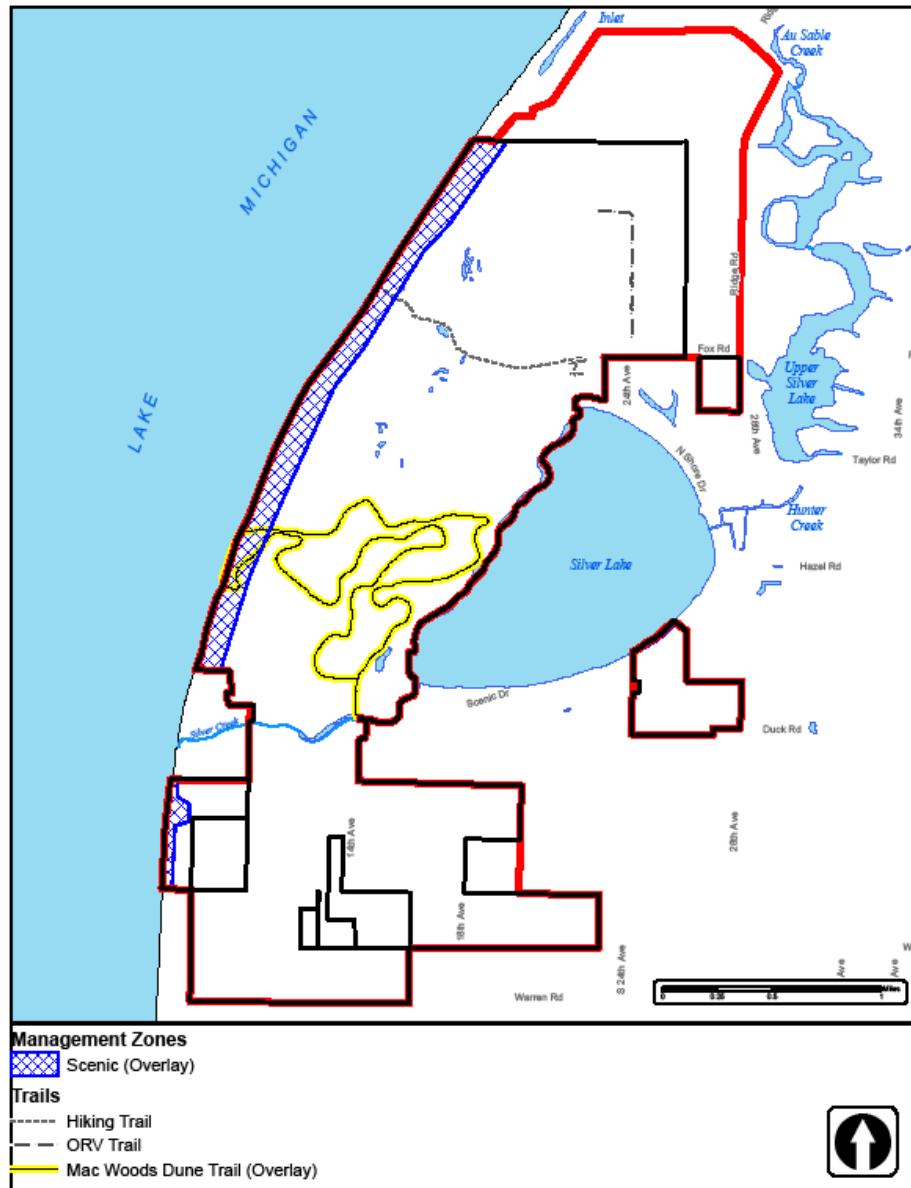
In addition to meeting the specific provisions of the concession contract, this zone will be managed in a natural condition, with specific limitations on man-made intrusions and specific goals of maintaining natural vegetative cover, high water quality, and provision of educational and interpretive messages to the visitor on the dune system. This zone overlay represents the seven miles of trail approved for use under the contract. The areas outside of the trail are Primitive Zone, and fall under the management guidance for that zone.



- Natural Resources - This zone will reflect natural processes, with vegetative management permitted to restore and maintain natural ecological structure, such as the removal and control of invasive species. Vegetation may also be managed for soil stabilization, to facilitate recreational use, and to maintain aesthetic value surrounding the Mac Woods trail. Hazard trees will also be managed, as well as pests and disease. Generally, the natural resources in this zone can be modified to support visitor activities, provided they are consistent with other identified values.
- Historic/Cultural Resources - Any historic or cultural resources identified in this zone would be preserved, removed, or allowed to deteriorate.
- Recreational Opportunities - The primary form of recreation in this overlay is the Mac Woods Dune Ride; a seven mile adventure ride offered during the summer since 1930. This 40 minute tour of the Silver Lake Dune habitat is given by knowledgeable drivers who thoroughly understand the history and environment of the ever-changing dunes. Please see the Supporting Analysis for Silver Lake SP for more information.
- Education Opportunities - The education opportunities associated with the Mac Woods Dune Rides are very positive; they offer all park visitors access to the dunes to learn about this exciting and dynamic environment. This opportunity is especially positive to those with limited mobility who would otherwise be left unable to experience the dunes.
- Visitor Experience - The visitor and patron of the Mac Woods Dune Trail should expect to have fun, make many contacts with other visitors and staff guides, and gain from the experience a better understanding and appreciation of this complex natural system.
- Management Focus – The management focus for this zone overlay is to closely monitor all provisions of the contract with Mac Woods Dune Rides, and assure compliance with those provisions. Additionally, management will work with Mac Woods Dune Rides in developing the educational and interpretive message(s).
- Development – All trail improvements are the responsibility of Mac Woods, under the contract, and in accordance with the Critical Dune Maintenance, Five-Year Plan Permit.

Scenic Zone (Overlay)

The Scenic Zone designated in this plan serves to highlight viewsцapes worthy of seeing and protecting. The areas designated on the plan protect the views of Lake Michigan, Silver Lake, and the dune complex from across Silver Lake at the Campground/Beach area. While not specifically designated, spectacular views reward the hiker who explores the massive dune field of this park.



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- Natural Resources** - Natural resources can be modified slightly to support visitor use and viewing, but tolerance for natural resource impacts is low. Human-caused habitat fragmentation will be minimized. This zone will reflect natural processes, with vegetative management only allowed to

restore and maintain natural ecological structure and processes (such as removing of invasive species), to address hazard trees, and to manage pests and disease. Vegetation may also be managed to enhance the viewscales of the zone.

- Historic/Cultural Resources - Cultural resources preserved, rehabilitated, or removed. Historic structures could be adaptively used for operational uses or educational purposes.
- 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 encounters at primary beach locations (at the Lighthouse, ORV Area, and Campground/Day-Use Beach). Low visitor encounters along the Lake Michigan beach of the Primitive Zone.
- Management Focus - Maintain the quality of the viewscales on which the zone is based. All activities or developments in this zone must be compatible with the overriding purpose of view quality.
- Development - Moderate level of development to support visitor access, transit, interpretive activities, and sightseeing (ie. roads, trails, parking, restrooms, overlooks, small picnic areas, interpretive media) can be allowed. Development blends with the natural and cultural environment. All activities or developments in this zone must be compatible with the overriding purpose of view quality.

FUTURE PLAN INSERTS

Phase 2 – Long Range Action Goals Plan (10-Year) - to attain PH1 Plan

Phase 3 – Implementation Plan (5-Year) – specific actions from the PH2 Plan for which funding is available

Phase 4 - Annual Action Plan and Progress Report

Operational/Management Resources – the Following categories are established as a guide for the park manager/supervisor to use to supplement this working document. Other categories can be added as needed.

- Annual Work Plan (NOTE...this should reflect the values and emphasis of the Zones established for the park and tie-in with Phase 4 – Annual Report of Management Planning)
- Staffing
- Budget
- Equipment inventory and needs
- Training (required and desired)
- Public Relations/Marketing/Outreach
- Programming (ex: special events/projects, MCCC, volunteers, etc.)
- Public Health, Safety, and Welfare
 - Water System
 - Wastewater system
 - Electrical system
 - Law enforcement
 - Emergency Access Plans
 - Wildfire Management Plan
 - Health Department Reports
- CRS
- FOIA
- Infrastructure Inventory (when available)
- Raster Images of historic park plans
- County/Local Township Master Plans
- County/Local Township Zoning Ordinances

SUPPORTING ANALYSIS

Park Location and Surrounding Community Setting

Silver Lake State Park (SP) is located on the western shore of Michigan. Located on Lake Michigan, Silver Lake SP is situated in Oceana County. The park lies on 3,085 acres in Golden and Benona Township at latitude 43.663352 and longitude 86.495733. The park is accessed by United States Highway US-31, which runs north and south to the east of Silver Lake SP. The highway exits from Shelby and Hart have signs directing towards the park. Mears and Pentwater, which are north of the park, have a series of county roads that lead to the entrance of the park. Silver Lake SP is 31 miles south of Ludington, 36 miles north of Muskegon, eleven miles northwest of Shelby, and eight miles west of Hart, which is the Oceana County seat.



Demographics

The Village of Shelby, located southeast of the park, had a population of 1,914 as of the 2000 Census. The city of Hart, located northeast of the park, had a population of 1,950 people in 2000. The 2000 Census population of Oceana County was 26,873, which was a 19.7% increase from 1990, and has a population density of 49.7 people per square mile. Silver Lake SP is located in an area known as Mears. Mears was never

incorporated as a city or village, but is located in the center of Golden Township, located within Oceana County, and had a 2000 Census population of 1,810 people.

Oceana County Population – People QuickFacts

	Oceana County	Michigan
Population, 2006 estimate	28,639	10,095,643
Population, percent change, April 1, 2000 to July 1, 2006	6.6%	1.6%
Population, 2000 actual	26,873	9,938,444
Population, percent change, 1990 to 2000	19.7%	6.9%
Persons under 5 years old, percent, 2006	7.0%	6.3%

	Oceana County	Michigan
Persons under 18 years old, percent, 2006	25.3%	24.5%
Persons 65 years old and over, percent, 2006	14.2%	12.5%
Male persons, percent, 2006	50.2%	49.2%
Female persons, percent, 2006	49.8%	50.8%
White persons, percent, 2006 (a)	96.8%	81.2%
Black persons, percent, 2006 (a)	0.5%	14.3%
American Indian & Alaska Native persons, percent, 2006 (a)	1.1%	0.6%
Asian persons, percent, 2006 (a)	0.3%	2.4%
Native Hawaiian & Other Pacific Islander, percent, 2006 (a)	(Z)	(Z)
Persons reporting two or more races, percent, 2006	1.3%	1.5%
Persons of Hispanic or Latino origin, percent, 2006 (b)	14.4%	3.9%
White persons not Hispanic, percent, 2006	82.9%	77.7%

(a) Includes persons only reporting one race.

(b) Hispanics may be of any race, so also are included in applicable race categories.

(Z) Value greater than zero but less than half unit of measure shown.

<http://quickfacts.census.gov/qfd/states/26/26127.html>

Oceana County Projected Population

	ACTUAL				PROJECTED					
	1970	1980	1990	2000	2010	2015	2020	2025	2030	2035
Oceana County	17,984	22,022	22,454	26,873	31,850	35,028	38,523	42,367	46,594	51,243
Benona Twp.	816	1,203	1,133	1,520	1,783	1,961	2,157	2,372	2,609	2,869
Claybanks Twp.	557	733	679	831	979	1,076	1,184	1,302	1,432	1,574
Golden Twp.	871	1,358	1,302	1,810	2,130	2,342	2,576	2,833	3,116	3,426
Hart Twp.	1,525	1,801	1,513	2,026	2,390	2,628	2,890	3,179	3,496	3,845
Pentwater Twp.	1,154	1,424	1,422	1,513	1,753	1,928	2,120	2,332	2,565	2,820
Shelby Twp.	3,352	3,506	3,692	3,951	4,623	5,084	5,591	6,149	6,762	7,437
	ACTUAL				PROJECTED					
	1970	1980	1990	2000	2010	2015	2020	2025	2030	2035
City of Hart	2,139	1,888	1,942	1,950	2,247	2,472	2,718	2,989	3,288	3,616
Pentwater Village	993	1,165	1,050	958	1,107	1,218	1,339	1,473	1,620	1,782
Shelby Village	1,703	1,624	1,871	1,914	2,220	2,442	2,686	2,954	3,248	3,573

SOURCE: Actual and Estimated Figures from the U.S. Bureau of the Census - Projected figures from the WMSRDC - <http://www.wmsrdc.org/>

Job Distribution of Oceana County

EMPLOYMENT BY INDUSTRY (Number of Jobs)				
Components by Type	1997	1998	1999	2000
Farm Employment	1,030	992	1,037	1,009
Non-Farm Employment	9,459	8,837	9,246	9,199
Total Employment	10,489	9,829	10,283	10,208
Components by Non-Farm Employment	1997	1998	1999	2000
Agriculture service, forestry, fishing, and other	490	516	543	585
Mining	123	105	96	81
Construction	719	645	655	696
Manufacturing	1,580	1,497	1,536	1,488
Transportation and public utilities	241	240	273	279
Wholesale Trade	158	171	161	164
Retail trade	1,941	1,718	1,932	1,851
Finance, insurance, and real estate	468	374	389	407
Services	2,284	2,141	2,149	2,059
Private Industry Total:	8,004	7,407	7,734	7,610
Federal. Civilian	68	68	68	81
Military	53	49	49	49
State and local	1,334	1,313	1,395	1,459
Government/Government Enterprises Total:	1,455	1,430	1,512	1,589

Source: U.S. Department of Commerce - Economics and Statistics Administration - Bureau of Economic Analysis, Issued May 2002

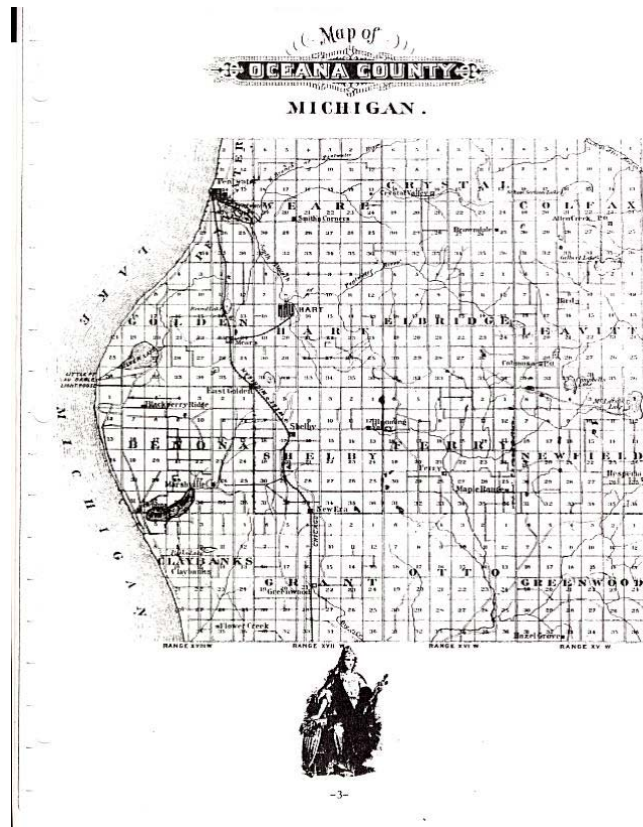
Oceana County Information

Geography QuickFacts	Oceana County	Michigan
Land Area, 2000 (square miles)	540	56,803
Persons per square mile, 2000	49.7	175

History of the Surrounding Area

Oceana County was officially organized in 1855 and received its name because of its long shoreline adjacent with Lake Michigan. It is also believed to have been the title of a novel written in the mid-1500's by James Harrington. The novel was based on the development of a perfect government. The word Oceana means "The Model Commonwealth" and it became a popular expression in the mid-1800's when the territory was named. Golden Township got its name because of the misspelling of an honored early settler's mother whose maiden name was Golding, but was recorded as "Golden". Early population records show the growth of the area was very gradual from 335 year-around residents in Golden Township in 1870 to about 870 by 1970. As of the 2000 Census, Golden Township records 1,810 permanent

residents with the summer resident population reaching about 5,600. The area also sees an additional million plus visitors each year.



Oceana County Map

The area of Mears was founded in 1873 by lumber baron Charles Mears (1814-1896) along with Samuel W. Odell. It was once a prosperous logging region with White Pine and Hemlock. Mears was lumbered with much of the wood being used to help rebuild the city of Chicago, Illinois after the Great Chicago Fire that occurred on October 8, 1871. By the year 1877 Mears had three sawmills, a shingle mill, three-story hotel, post office, railroad station, bowl factory, three general stores, a bakery, other related business and churches. During that time Mears was a focal point of Oceana County. The local train stopped numerous times a day during its runs to Hart, Pentwater, and Shelby. In 1879 the Spring Lake Iron Company constructed ten seventy-five cord charcoal kilns, used to harden, burn or dry materials. A school was built in 1907 followed by a canning factory in 1913. During this time Charles Mears built a store with a second story arranged for the purpose of serving as a court room. Charles Mears and Samuel Odell petitioned the Oceana County Board of Supervisors to move the county seat from nearby Hart to Mears but the supervisors refused leaving the county seat remaining in Hart.



Charles Mears



Mears, Michigan 1877

The City of Hart's beginning started in 1857 when Wellington Hart built a trading post along Russell Creek. Since then there were no roads leading into Hart at the time the settlement had grown little in its first six years with just a sawmill and another home being built during that time. In 1864 Lyman Corbin, Wellington Hart's father-in-law, made a proposition to the Oceana County Board of Supervisors that he would give the county a square choice of land and \$1,000 to build a courthouse in Hart if they would move the county seat from a farmhouse along Whiskey Creek, in Claybanks Township, to Hart. At the time Hart didn't even have a post office and the local mail would be left on a fence post to be picked up and delivered. However, Lyman Corbin persuaded the board to set up a county wide election. Hart won the vote by six votes, 229 for and 223 against. With Hart being chosen as the county seat the area started to grow with the establishment of the Oceana Times newspaper, churches, general stores, a hardware store, a flour mill, and a hotel. The county also had a jail constructed in 1867 followed by a permanent court house in 1874 within Hart.

In 1882 a depot was built in Hart and a spur of the existing railroad was extended from the Mears community. By 1885 Hart was incorporated as a village and it continued to grow adding two opera houses. In 1924 the construction of a dam on the Pentwater River formed Hart Lake, which the city lies on the banks of, and provided power for the electrical plant that was built. Hart became a city in 1946 and now has a thriving business district and many large fruit and vegetable farms, surrounding the area, helping to support the local economy.



Hart, Michigan 1918

The Village of Shelby, formerly known as Churchill Corners, started at the now current State and Sixth streets in 1864 when Walter H. Churchill built his home, a post office and a hotel. The first road into Shelby was opened in 1866 and became a stopping place between Whitehall and Pentwater. When Shelby was first settled it was surrounded by hardwood forests and sawmills were soon created to process the timber. During the mid to late 1800's carrier pigeons were popular sources of food particularly in the east. They were hunted, iced down, and shipped by railroad to restaurants and households from the Midwest. Shelby was one of a very few prime nesting locations for carrier pigeons and in 1874 over 1,075,000 birds were netted and shipped to Detroit in a 30 day period by 600 professional netters, as reported by Jon M. Conrad in a study done for Cornell University. Flocks of flying pigeons were reported to have been 15 miles in length and 8 miles wide, by The New York Times newspaper in an article from May 2, 1880, causing a noontday light to be eclipsed. The Spring Lake Iron Company installed charcoal kilns, used to harden, burn or dry materials, in 1879 and depleted the area of most of its timber.

The residents of Shelby voted to become a village in 1885. Today Shelby has many churches, a hospital, a food-processing plant, and a down-town area with an



Shelby, Michigan 1912

Industrial Park with several specialized manufacturing plants. Agriculture is also a major contributor to the Shelby area with many fruit and vegetable farms surrounding the area. It is often said that the Shelby area is, "where the north begins, and the fine fruit grows."

Many individuals have influenced the growth and development of Oceana County and in particular Golden Township and the Silver Lake area. Among those was Swift Lathers (1889 - 1970), the editor of the "smallest newspaper in the world" titled the Mears Newz. The weekly newspaper was four pages long and five by seven inches in size. Lathers would write poetry, social notes, news, editorials and advertisements in the paper and hand deliver it to his subscribers for a fee of fifty cents a year. He was also a country-school teacher and one of the last one-man newspaper staffs in Michigan. Swift built and included his homestead in what was known as Dune Forest Village. It was located along the Lake Michigan shoreline in the sand dunes.



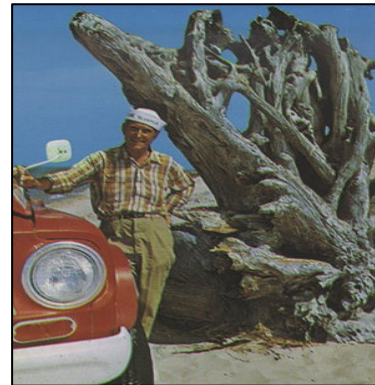
Swift Lathers

The county grew during the lumber era and when that came to an end, farmers found the land to be a great location for orchards. Production of sour cherries, peaches, plums, sweet cherries, pears, and apples have set state and national records. The cultivation of asparagus also has become a leading local product.

Another famous local influence, Malcolm "Mac" Wood (1894-1984), is credited with creating the area's first "dune scooter" in 1927. He offered a seven mile dune scooter ride designed from a Model A Ford which carried four passengers and charged a sum of twenty five cents for the ride. These rides started as a way for Mac to entertain his family at first, but neighbors and persons passing by were so interested in his discovery that they talked Mac into making a "dune scooting" business. As a promoter of tourism and the owner/operator of a seasonal resort on Silver Lake, Mac certainly can also be recognized as a major force in the seasonal recreation business that has boomed over the years. Mac Wood's became Silver Lake State Park's dune ride concession operator in 1952, as Mac Wood's Scenic Dune Rides, Inc., which has acquainted millions of area visitors with the scenic beauty, pleasure, and excitement of touring the sand dunes. Mac Wood's Scenic Dune Rides provides an introduction to the Silver Lake sand dune system by way of vehicle, which today is a 4 wheel drive modified vehicle with 4 aircraft tires that carries about 20 people.



Early "Dune Scooter"



Mac Woods

Tourism started on Silver Lake around the early 1920's. Cottages started to be built and people began routinely vacationing in the area. People, many from the state of Illinois, got to the area by train and would stay throughout the summer. Tourism continued to grow as outside access to the county became more readily available. Countywide electrification by the mid-1950's brought expansion to many of the rural areas. Since then, numerous residential developments have occurred expanding on the seasonal population.

Current Land Use

Oceana County land use is dominated by agricultural uses with apple, peach, pear, and cherry orchards. Many other fruits and vegetables are also grown and can be bought from one of the many farm markets spread throughout the county. Today, Oceana County ranks, in acres, as having the largest number of peach and pear

trees and third in plum trees in the State of Michigan. The county also has a considerable amount of acres containing carrots, squashes, snap beans and pickles. Oceana County ranks first in overall vegetable production, excluding potatoes, second in overall tart cherry production, third in overall vegetable production, including potatoes, and fourth in overall apple production in the State of Michigan. Oceana County also has the second largest amount of Christmas tree acreage in the state. Douglas fir is the most common followed by a substantial number of acres containing Concolor Fir, Frazer Fir, Scotch Pine, White Pine and Blue Spruce. There are also small acreages of White Spruce, Corkbark Fir, Canaan Fir, Balsam Fir, Grand Fir and Nordmann Fir.



Peach Tree



Pear Tree



Douglas Fir



Blue Spruce

Oceana County is Michigan's largest supplier of asparagus. There is the National Asparagus Festival, a three day long event held every June in either the City of Hart or the Village of Shelby celebrates the harvesting County. The event people each year who the parades, cooking crowning of the Mrs. since the 1960's and of asparagus in Oceana draws thousands of look forwarding to seeing contests, and the Asparagus Queen.



Asparagus

A major scenic attraction of Oceana County is the Lake Michigan shoreline and its towering sand dunes. Some people travel great distances to view the dune swept coast. The Silver Lake dunes are a major attraction because they are the largest fresh water shifting sand dunes east of the Mississippi River. To some visitors they have the appearance of the great California Imperial Dunes or the famous Sahara Desert of Africa.



Silver Lake Sand Dunes at Sunset

Surrounding Area Natural Resources

The following information was taken directly from:

<http://www.npwrc.usgs.gov/resource/habitat/rlandscp/sub7-4.htm>

Ecoregional Context

“Subsection VII.4 lies along the west coast of the State of Michigan. Although it is physio-graphically diverse, the entire subsection has a climate moderated by Lake Michigan, resulting in intense agricultural use of the lands for vineyards and orchards. Steep sand dunes, as high as 600 feet, form a narrow band along much of the Lake Michigan shoreline. These dunes, which date from the low-water Nipissing Stage of the Great Lakes from approximately 4,000 years ago, also occur along the shoreline of Lake Michigan and eastern Lake Superior. Near the shoreline, large areas of the dunes have open, shifting sands, but farther inland, where there is protection from offshore winds, forests stabilize the dune sands.



Subsection VII.4

ELEVATION: 580 to 1,150 feet (177 to 350 m).

AREA: 1,435 square miles (3,715 sq km).

Presettlement Vegetation

The dunes were noted by General Land Office (GLO) surveyors as "loose sands" at several places along the coast. Farther inland the dunes supported various forests, including upland hemlock, hemlock-white pine, white pine-red pine, and red pine-jack pine-dominated forests. Northern hardwood forests, often with a significant component of hemlock and/or black oak, were also common. Poorly drained interdunal areas often supported northern white-cedar and/or hemlock-dominated swamps and shrub swamps.

On sandy lake plain and sandy moraines, eastern hemlock and American beech were often co-dominants. Other upland parts of the sandy lake plain included forests of white pine, which included significant amounts of white oak, beech, hemlock, black oak, and white ash. Several large complexes of beach ridges and swales, extending as much as a mile inland, supported various upland/wetland plant communities.

Poorly drained parts of the sandy lake plain supported swamps containing various combinations of black ash, elm, trembling aspen, tamarack, northern white-cedar, and hemlock. Thickets of willow, speckled alder, and bog birch, and emergent marshes also occurred on the sandy lake plain. Extensive marshes formed in the shallow inland lakes that formed at the mouths of major rivers, such as the Manistee and Big Sable.

Most of the moraines, regardless of their soil texture, supported forests of northern hardwoods. Dominance of northern hardwoods was probably a result of the increased precipitation and reduced transpiration along Lake Michigan (Denton and Barnes 1987, Eichenlaub 1979), allowing beech, sugar maple, and basswood to dominate sandy soils where oaks and pines would otherwise be expected.

Fine-textured ground moraine supported forests of eastern hemlock. Poorly drained areas with finer textured soils supported black ash, black spruce, and cedar swamps.

Sandy outwash deposits supported forests of white pine, red pine, and white oak, or on more fire prone sites, red pine with jack pine."

Natural Disturbance

Although many of the high coastal dunes have been stabilized by forest vegetation, large blowouts are common on the dunes next to Lake Michigan. Some of these blowouts are the product of human disturbance; but many, noted by GLO surveyors, are probably naturally caused. The blowouts are large features, often extending as much as a half mile inland.

Signs of wildfires on sandy outwash deposits were noted several times by surveyors. Occasional, relatively small windthrows were encountered on the moraine ridges of the subsection.”

Present Vegetation and Land Use

“The dunes are largely managed as recreational lands, including State and Federal parks. Residential development is also popular on the dunes.

White pine and red pine were extensively cut from the lake plain. The flat, sandy lake plain supports second-growth forest, used both for timber and recreation. Pine regeneration has generally been poor on the pine plains, with trembling aspen, red maple, and paper birch increasing in dominance after logging. There were attempts to establish orchards and farms on the sand lake plain after logging, but low productivity and easily eroded soils have resulted in high rates of abandonment.

The protection from late spring frosts afforded by Lake Michigan is responsible for the use of the subsection for extensive orchards of apples, cherries, and peaches (Olmsted 1951).”

Climate

“A strongly lake-modified climate results in a long growing season of 140 to 150 days (Eichenlaub *et al.* 1990). This, coupled with retarded spring warming, makes the climate suitable for commercial fruit production. Lake-effect snowfalls are heavy, averaging 100 to 140 inches. Average annual precipitation is 32 to 34 inches.”

The following climate information chart was taken directly from Michigan’s Official Economic Development and Travel Site:

<http://www.michigan.org/medc/miinfo/places/OceanaCounty/?section=all>

OCEANA COUNTY CLIMATE		
MONTH	AVG. MIN TEMP	AVG. MAX TEMP.
January	16°F.	29°F.
July	58°F.	81°F.
PRECIPITATION	RAINFALL	SNOWFALL
Average Annual	34in.	99in.
GROWING SEASON	DAYS ABOVE 90°F	DAYS BELOW 0°F
142 Days	5	7
Source: NOAA Climate Summary, 1995		

Soils

“The dune soils are excessively well drained sands that contain no fine silts or clays. Most of the soils on the moraines are sands, but there are both medium-textured and fine-textured soils on the moraines.”

The following information was taken from the State of Michigan Environmental Assessment of Silver Lake State Park in February 1977:

Topography

“The topography of the Silver Lake area varies from relatively flat to very rugged dunes ridges. The land just south of Silver Lake is flat to gently sloping. From the Silver Lake shoreline to the south the land rises sharply to the higher plateau areas which are from 200 to 250 feet above the lake. The high point is approximately 375 feet above Silver Lake and 380 feet above Lake Michigan.”

Mineral Resources

“The subsurface geological formations of Oceana County are represented by the western rim of rock bowls which fill the Michigan basin. In the past, explorations for oil and gas have provided a wealth of information as to the exact make-up of those rocks located beneath the glacial drift.

These formations are represented by various sedimentary groupings, including shale and sandstones. The surface features of Oceana County are in part the result of glacial drift which is typically 400 to 600 feet deep. As the various glaciers flowed across the county, they left moraine configurations which are the predecessors of today's eroded hills and valleys.

The most pronounced geologic feature of the Silver Lake area is the active Silver Lake dune. This dune was formed in front of prevailing winds off Lake Michigan. As sands are washed up onto the shore, those particles light enough to be wind born are carried inland. This selective wind action has created a mineral resource in the form of dune sand.

The size, purity, and shape make this sand excellent for foundry and glass blowing purposes. During 1973 Michigan supplied 90% of the sand used by automotive foundries while supplying the nation with 50% of its industrial sand needs.”

Flora

“Most of Oceana County that is not in agricultural, residential or commercial remains forested. Most of these forested areas are located within the boundaries of Pentwater River State Game Area, Pere Marquette State Forest, Manistee National Forest, and Silver Lake State Park.

The major trees found throughout the area consist of Oak-Pine and Maple-Beech-Hemlock with Black Oak and White Pine being the most abundant. Jack Pine can also be found throughout the area along with Black Cherry and Maples.”

Fauna

“The forested areas provide an excellent habitat for many types of wildlife. Animals within the area include the whitetail deer, raccoons, squirrels, chipmunks, opossum, red fox, coyote and rabbits. Oceana County, along with all of Michigan has an abundant bird habitat. The following bird fauna are common to the area: Chickadee, White-breasted Nuthatch, Tufted Titmouse, Brown Creeper, Blue Jay, Crested Fly-catcher, and Flicker.”

Sand Dune Formation

The following information was taken from the Michigan Natural Features Inventory, Community Abstract on Open Dunes:

Landscape Context

“There are approximately 275,000 acres of sand dunes along Michigan’s Great Lakes shoreline, including areas of Lakes Superior, Michigan, and Huron. Great Lakes dunes are relatively young, as the Great Lakes were occupied by ice until approximately 16,000 years ago. The dune sands are derived from glacial sediments, including lacustrine and outwash sands and sandy tills. A combination of water erosion and wind deposition resulted in the formation of Great Lakes coastal dunes. The sand source for the coastal dunes was glacial sediment that was eroded by streams and by waves eroding bluffs along the Great Lakes shoreline. These sediments were then moved along the Great Lakes shoreline by near-shore currents, and then deposited along the shoreline by wave action. Strong winds then carried the sands inland, creating dunes.”

Recent Research

In 2000, Dr. Timothy G. Fisher of the Toledo University (Ohio) and Dr. Walter Loop of the United States Geological Survey agency began in depth studies of the Silver Lake sand dune and lake formations. In part their research found “...a lake or wetland with some configuration of sand dunes to its west has existed in approximately the same area as modern Silver Lake and its dunes since 13,500 BP.”

Their research “...focused on understanding the history of Silver Lake and its dunes in the time frame since the last ice age (about 15,000 BP) to present (Note...BP stands for years Before Present, with present being 1950 A.D.).

Water levels in Silver Lake have not remained constant since deglaciation. Terraces etched into the slopes east of Silver Lake are former shorelines (beaches and scarps) of a deeper lake in the Lake Michigan basin that existed from about 11,000-15,000 BP. During much of that time, Silver Lake was an embayment of the deeper lake in the Lake Michigan basin, until a spit/barrier bar complex had closed it off by ~12,500 BP. Following this, water levels in Lake Michigan dropped about 80 meters and Silver Lake became a shallow wetland depositing marl (calcium carbonate) and was fed by runoff and inflow from its creeks, and by groundwater mostly likely sourced from the higher land to the east and south of the lake. By about 9000 BP the wetland evolved into a swamp, and peat deposits collected in the bottom of the lake basin until 6600 BP. During this period from 6600-12,500 BP, sand was deposited within the marl and peat deposits which can only be explained by airfall, or transport over a frozen water surface similar to what is observed on modern Silver Lake. Therefore sand dunes must have existed upwind (likely to the west) of Silver Lake since about 12,500 BP.

From about 12,000 BP lake level rose in the Lake Michigan basin to a peak about 5500 BP. Although Silver Lake was separated from Lake Michigan (or Lake Nipissing as the water body then is called), the water level in Silver Lake rose above modern level, and is marked by the bench and scarp well viewed on either side of Silver Lake Road along the eastern shore of Silver Lake. It is particularly well developed between the upper and lower campgrounds on the park property. As Lake Nipissing fell to the modern Lake Michigan levels about 4000 BP Silver Lake has remained a lake likely with its water levels fluctuating by a meter or so depending upon climate conditions and episodes of dune damming effluent Silver Creek. Beginning at 6600 BP and continuing to the present, the lake sediment within the Silver Lake basin has been a sandy organic rich muck.

The sand with the lake sediment is eolian in nature, meaning its origin is from sand dunes upwind of the lake. Variations in sand content in the lake sediment from 6600 BP are a record of the past when sand dunes were active (none, or varying amounts of vegetative cover). Careful studies of the amount of sand and their timing indicate that sand deposition in Silver Lake coincided with high water levels in Lake Michigan, most likely a result of greater storms, and wind, during those times. This suggests that there always were some dunes without vegetative cover. Much of what is seen along the coast today to the north and south of Silver Lake: most dunes are stabilized, but a few are not.

More recently, the historical positions of sand dunes were mapped from aerial photographs dating back to 1938. The resulting pattern of dune motion is one of dunes migrating into the Silver Lake basin from the southwest, west and northwest reflecting the prevailing winds from those directions.

Of great interest is when these sand dunes began their migration, as much as 150 m (490 feet) into Silver Lake. Considerably more information could be collected from Silver Lake on this topic, but here we rely on the ages of wood from buried soils in the dunes themselves. The presence of stumps and buried soils on top of dunes with a piece of charcoal 3000 years old indicates that the dunes are thousands of years old, and may have been mostly stable since 3000 years ago. There are a series of four radiocarbon dates on wood in a buried soil in the dunes that are about 450 years old. This indicates that the present configuration of active dunes seen today is most likely no more than 450 years old. A few dates only 100 years old from the same soil, suggest that the dunes did not all become active at once, but that there may have been a mosaic of active and vegetated dunes. There are other techniques to determine the age of sand burial, which could be attempted at the Silver Lake dunes. In small lakes in the lee of dunes south of Holland, MI the latest dune reactivation began about 150 years ago, and along the Michigan coastline it has been suggested that there was widespread dune reactivation beginning about 300 years ago.

To summarize the recent geologic history of Silver Lake and its dunes, it appears that the dunes at Silver Lake, similar to other places along the coast, entered a more

active phase between 100-450 years ago. This is well before motorized vehicles appeared on the dunes.”

SILVER LAKE STATE PARK

History

The area of Silver Lake State Park was surveyed in 1838 by Jas H. Mullet, who found no value within the dunes because agriculture and lumber production were not available.

In April 1873 construction began on the Little Sable Point Light Station. The 107 feet tall conical tower was completed in 1874 along with a one and a half story dwelling for the lighthouse keeper and a lean-to for fire wood.



Little Sable Point Light Station

Silver Lake SP had its origin in 1920 when 25.19 acres was given by Carrie E. Mears for park purposes. The land is now the developed modern campground, swimming beach and picnic area in Silver Lake SP located on the east side of Silver Lake. Originally, there were two parks Sand Dunes State Park and Silver Lake State Park. In 1926 the federal government transferred 900 acres of sand dunes to the State of Michigan with the State Park system gaining management of the area in 1949. Silver Lake State Park's boundary was dedicated in 1951 based upon the first master plan being created in 1940, and being re-developed in 1958 and 1982.



Camping at Silver Lake State Park 1920's

The decision to allow privately owned dune buggy driving on 242 acres north of the current Pedestrian Area was made in 1957, although the practice had been occurring regularly since at least 1955. In 1966 property was acquired to provide access to the sand dunes and a 60 car parking lot was developed. A larger parking lot was built for dune access and dune buggies in 1974 with more property being added to the ORV area in 1977 increasing the facility to 450 acres of open dune.



Early Dune Buggy Types at Silver Lake State Park

Park Land Use

Silver Lake SP is considered a multi-use park with recreational opportunities that include camping, hunting, swimming, hiking, boating, and an off-road vehicle area, as well as many other recreational opportunities.

The 3,085 acres of the park includes a (approximate) 1600 acre open dune system with opportunities for ORV use in a 450 acre area. Another 750 acres of open dune is used for pedestrian use and holds opportunities for hiking, hunting, and great views. On the remaining 400 acres of the open dune, approximately seven miles of trail is leased to Mac Wood's Scenic Dune Rides, which has been offering rides through the dunes since 1930. The remaining 1,485 acres (approximately) includes two modern campgrounds that provide 200 campsites for guest use, forested dunes, and day-use areas that allow access to Silver Lake, the dunes, and Little Sable Point Light Station.

The beach in the park offers swimming and there is also a boating access site to Silver Lake that provides opportunities for fishing and other water activities. Silver Lake is approximately 690 acres in size with a maximum depth of 25 feet. The bottom is 100% mineral (sand) in nature and it has both an inlet (Hunter Creek) and an outlet (Silver Creek). The inlet into Silver Lake is Hunter Creek. The AuSable Creek empties into Hunter Creek approximately one mile east of Silver Lake. The AuSable Creek has been impounded forming two small lakes: Upper Silver and Holiday Lakes. These two lakes, totaling approximately 120 acres in size, were created specifically as focal points for residential subdivisions. The Silver Lake outlet is Silver Creek, also known as Silver Channel, which extends about a mile east and west before it empties into Lake Michigan. The lake's control structure consists of a small dam with a two foot head controlling the established legal lake level." – This information was taken from the State of Michigan Environmental Assessment of Silver Lake State Park in February 1977. There is one mile of beach along Silver Lake and more than four miles of Lake Michigan shoreline within the parks boundary.



Silver Lake, looking towards the Sand Dunes

On approximately 400 acres of the park, commercial use takes place with Mac Wood's Scenic Dune Rides lease of a defined trail. Totalling approximately seven miles, the dune ride lasts approximately 40 minutes, and it is provided by safe and knowledgeable drivers that understand the history and environment of the constantly changing sand dunes.



Mac Wood's Scenic Dune Rides

Also included within the park is the Little Sable Point Light Station. The light, tower and house construction began on a 39 acre parcel of land in April of 1873 and were completed in 1874. The light tower is 107 foot tall and is made from red brick. It is an active light station with a black cast-iron parapet with curved supports. There are 139 cast iron steps that lead into a cast iron lantern room which holds the light stations original Third Order Fresnel lens. Visible for approximately 19 miles, it is a protector to ships that pass by the Silver Lake Sand Dunes. The Big Sable Lighthouse in Ludington State Park is known as its twin sister with both lighthouses and towers being built to similar specifications. The Little Sable Point Light Station tower is alleged to be the tallest brick light tower on the Great Lakes. The light station is open in the summer for tours and charges a small fee to enter.



Little Sable Point Light Station

Silver Lake SP is the only state park in Michigan that allows off-road and all-terrain vehicles within an area of their park. The 450 acre area is a major attraction to visitors with off-road vehicles that wish to operate on the dunes. In 2005 the Michigan DNR along with Michigan State University (MSU) conducted a user survey in the Silver Lake SP ORV Area. The eighteen question survey received results from May 15 through October 29, 2005. The survey asked various questions from where is the surveyed individual's principal home (county, state, zip) and is ORV riding their primary purpose for visiting Silver Lake SP? Results were taken and totals were generated.

From the 2,900 surveys distributed, the results from the 379 respondents reported that 75.6% (279) resided in the state of Michigan. Ohio had the second most with 32 people (8.7%). The state of Indiana came in third with 28 visitors (7.6%) followed by Illinois with 16 (4.3%). Wisconsin and Canada came in with a tie with 4 people (1.1%) followed by Pennsylvania and Virginia with 2 (0.5%) and Texas and Tennessee finishing off with one visitor apiece (0.3%) from each state.

Of people reporting if ORV riding was their primary purpose to come to Silver Lake SP, 354 (93.9%) stated that it was and 23 (6.1%) people said it was not. Additionally, the park learned that the average stay or operating time at the dunes was 3.5 days, the average age of the respondents was 38, and the average rating of satisfaction with their experience was 8 on a scale of 1-9 (with 9 being highly satisfied).



ORV Use at Silver Lake State Park

Recreational Opportunities within Silver Lake SP

Developed Opportunities

Silver Lake SP offers a diverse array of recreational opportunities with day-use, camping, and the ORV area. Following are the recreational features of this park:

- **Camping** – Silver Lake SP has two modern campgrounds in the park featuring toilet/shower buildings, electrical pedestals, fire rings, and picnic tables on each site. One campground is located adjacent to Silver Lake and the other is located across Silver Lake Road to the south. Overall there are 200 campsites at Silver Lake SP.



Silver Lake State Park Campground

- Day-use Areas – Day-Users can enjoy the picnic shelters and picnic area as well as many other activities that include boating, swimming, fishing, hiking, sun-bathing, and bird watching. Other day-use areas include The Little Sable Point Lightstation and access to both forested and sand dunes.
- Open Sand Dunes - Exploration is available on approximately 1,600 acres of open sand dunes with 450 acres being solely used for the ORV area. Another 750 acres is designated for pedestrian use and on 400 acres, seven miles of trail is leased to the Mac Wood’s Scenic Dune Rides.
- Hunting and Trapping – Silver Lake SP is open to hunting during all regular seasons. There is approximately 1,000 acres of mature hardwoods as well as 1,000 acres of dunes that are open to hunting. Primarily squirrel, white-tailed deer, grouse, duck, geese and rabbit are hunted in this area.



Whitetail Deer



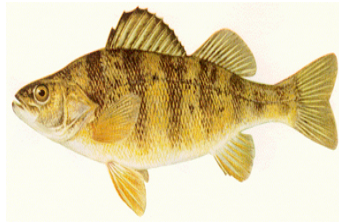
Wood Duck



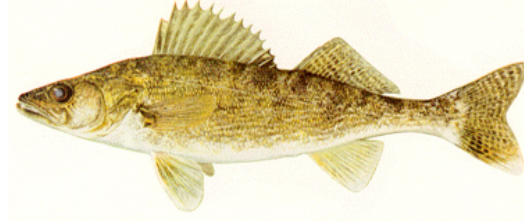
Canada Geese

- Fishing – Silver Lake and Silver Creek, also known as Silver Channel, provide great fishing opportunities throughout the year. Bass, walleye, perch, panfish, and crappie are commonly caught in this area. In the winter, ice fishing is popular with guests catching northern pike, crappie

and walleye. Lake Michigan provides some of the best fishing for steelhead, trout, bass, salmon, perch, and walleye in the Midwest.



Perch



Walleye

- Light Station – Silver Lake SP features the Little Sable Point Light Station, which is a short drive, 2.5 miles, from the campground. It is currently leased by the Sable Points Lighthouse Keepers Association. Tours are given of the light station tower during the summer months.



Little Sable Point Light Station

- Metal Detecting – This activity is allowed in specific areas of the park. Metal detecting is recognized as a legitimate recreation activity when it is conducted in ways that do not damage the natural and cultural resources in Michigan State Parks nor violate applicable state statutes. If you wish to use a metal detector in Silver Lake SP, please contact the park or ask park staff where this activity may take place. Any items found must be reviewed by park staff and may be retained for further investigation.

that allows off-road vehicles in Michigan, Silver Lake SP has special rules to ensure that people enjoy this recreation activity safely. There are open dunes to explore, hills to climb, wooded areas to tour, and a Lake Michigan beach area approximately ¼ mile in length to enjoy. Please contact the park or ask park staff to learn more about ORV use in Silver Lake SP. This specialized area is open for use annually from April through October.



Memorial Day Weekend 2006

- ORV Voucher System - The DNR introduced a voucher system during the 2000 season as a tool to manage the long lines of ORV users waiting to enter Silver Lake State Park on Saturday, Sundays and holidays.

There are two types of vouchers: Dune Ready Vouchers and Parking Lot Vouchers. Dune Ready Vouchers are for vehicles that enter the state park ORV area from public highways and go straight into the sand dune off-road area without the need for the parking lot/staging area. Parking Lot Vouchers are for those who require a staging or parking area for their tow vehicles and/or trailers. Both types of vouchers are free to park visitors and are distributed from the Off-Road Vehicle Voucher Center located ¼ mile to the east of the ORV Area entrance at the corner of Fox and Ridge Roads. The purpose of the voucher is simply to hold the ORV user's place in line, while staggering arrival times to avoid excessive lines.

Vouchers will be handed out the two weekends prior to the Memorial Day weekend and will be continuously distributed through the summer on weekends and holidays until the Sunday following Labor Day. The voucher distribution point opens at 12 noon on Fridays for Dune Ready Vouchers and at 9 p.m. for Parking Lot Vouchers. The Voucher Center will remain open until at least 11 p.m. and re-open at 7 a.m. on Saturday, Sunday and holidays.



Park Ranger Working at the ORV Entrance

- Hiking – Hiking can take place on roughly 1,150 acres of open sand dunes that are separate from the 450 acre ORV area. This is also a popular activity in the wooded areas at the south end of the park.
- Geocaching – There are at least three locations within Silver Lake SP.
- Beach Area – Four miles of sandy beach on Lake Michigan give guests the opportunity to take a break from the ORV area or other activities. Swimming is allowed on all parts of the beach. There is over one mile of Silver Lake beach frontage along the dunes shoreline on the west side of the lake and a small designated and buoyed beach near the campground.



Silver Lake Beach Overlooking Dunes around 1955

Areas of Conflict

With diverse use for multiple interests comes the potential for conflict between users and/or between users and the natural resource or historic/cultural values of the park. Silver Lake SP is no exception especially with an off-road vehicle facility located within a fragile and dedicated DNR Critical Sand Dune complex. Following are the identified conflict issues for this park:

- Off-Road Vehicle Area – There has been conflict and controversy nearly since the inception of what is today called the ORV Area but began as the “Dune Buggy Area”. To begin with, conflict arose as

individual dune vehicle owners began to use private property, owned by commercial dune ride companies, to gain access to the dunes as early as 1955. Area dune buggy owners approached State Park officials in 1957 about establishing a separate area for their use. The Department of Conservation, now the Department of Natural Resources, provided them with public access and created a boundary line to separate pedestrian from vehicle uses because of the local popularity and support for the plan. Eventually, the concept of multiple recreational uses of the dunes was formalized by the Natural Resources Commission in the “1970 Management Zoning Plan” with a commercial tour/interpretive dune ride in the southern portion of the dune complex, pedestrian area in the middle, and the ORV area on the north end. These three distinct use areas remain today.

- ORV Accidents – Accidents occur on a regular basis in the Silver Lake SP ORV Area due to numerous factors, such as vehicle speed and operator error. Although regulatory signs are posted to advise of directional traffic zones, steep hills, speed zones, speed limits, and the similar cautions, some users do not heed the warnings. Some believe these conflicts tend to raise questions about such a high risk activity in state parks.
- ORV Voucher System – Even though new techniques for obtaining permits were introduced in the year 2000, some guests are still not able to have accessibility to the dunes. The very limited quantity of motor sports areas within Michigan as well as the entire mid-west is a strong contributor to the congestion the voucher system was developed to manage.
- Carrying Capacity – The high use of the dunes for ORV activities puts the geology and ecology of the area in danger. Silver Lake SP also feels the effects of being overcrowded on summer holidays and weekends. One of the major areas of concern leading to the creation of the voucher system was an attempt to control attendance and use of the ORV area which many felt had reached or surpassed its saturation point, especially on holiday weekends.
- Related ORV Concerns – Additionally, attention has been brought to the matter of the continued use of off-road vehicles preventing the sand dunes from stabilizing. In effect, this activity continues the problems caused by sands blowing onto adjacent properties that may not have occurred if the land had been allowed to return to its natural state. However, dunes both north and south of the ORV Area are just as unstable and have been for perhaps the last 400 years or more, although there has been no motor vehicle traffic on them.

The main dune ridges appear much like they do in photographs from the 1920's and 30's although within the ORV Area literally millions of vehicles have traveled across them. It could be argued that actually the sands in the ORV Area have been compacted by the weight of the vehicle traffic which stabilized them more than other areas where the sands are much softer to walk across.



Picture of Silver Lake Sand Dunes before Heavy Use 1930's

- ORV Noise, Air, and Ground Pollution – The large concentration of motor vehicles adversely impacts the quality of air because of the accumulation of exhaust both within the dunes as well as access routes. Fortunately nearly constant winds and breezes off of Lake Michigan tend to dissipate the foul air relatively quickly. However, the “carbon foot print” of this recreational activity can not be minimized. The heavy exhaust has also had negative effects on the vegetation at various check points within the operational system. Trees located near entry and inspection booths have not fared well in the fuel polluted atmosphere.

The ground pollution from oils and fuels spilled and/or dripped from the numbers of vehicles routinely parked on the gravel parking lot surface has been a point of concern as well. No studies have ever been conducted regarding the long term effect of this situation.

Noise levels also have historically been problematic and the recent enforcement of exhaust sound limits has helped to some degree. Vehicles are randomly checked for their compliance with the requirement for good operating mufflers that must contain baffles and spark arresters.

- ORV Area Wet Lands and Interdunal Ponds – In years past this seemed to be a greater concern than of late. Perhaps lose of wet

lands else where within the dune complex and the management of the ponds in the ORV Area has contributed. Since the low water levels throughout the area have driven the area fauna from other interdunal wet lands to those found here, the preservation and protection of the areas is better understood and respected.

It is quite interesting to note how the birds and animals have adapted over the years to the vehicle traffic. Deer, coyotes, fox, raccoon, rabbits and any number of song birds and flight ducks/geese are found in the ORV Area regularly and on occasion deer have been found standing by the boundary rope fences watching the vehicles zip around, just like park sightseers.

- Beach Access – Beaches are not universally accessible regarding ADA concerns and trespass issues with adjoining private property. Public health and safety concerns surround use on remote beaches and use areas that contain limited or no public restroom facilities.

- Congestion – On summer weekends and holidays high use of recreational areas, long visitor lines, limited roadway systems, and a growing population all contribute to the problems of congestion. Long lines, use of ORV equipment, and an overcrowded infrastructure also contribute to the noise issues that surround Silver Lake. Access to Silver Lake SP beach area near the campgrounds is a very popular destination, but trouble arises because the entrance to the beach area is also used as an entrance into one of the Silver Lake SP modern campgrounds and the only paved boat access ramp on Silver Lake.

The beach area along the western shoreline of Silver Lake is remote and not easily accessed by the visiting public. Many reach the area by watercraft while others hike into the beach area from the Pedestrian Area Dune Access Parking Lot. The route for this latter access causes ongoing conflict with adjacent private property owners regarding trespass issues, litter, and disruptive foot traffic. Proposed pedestrian access for the future may include a tunnel or box-culvert under the front edge of the approaching dune ridge. Public health and sanitation, in this popular swimming and boating area, are challenged because of the lack of any restroom facilities within a near distance and the maintenance hurdles that would be associated, if they did exist.



West Side Beach Congestion

- Water/Sewer Facilities – Although there is no municipal water or sewage treatment system in the area, there has been talk of a system being created in the future. Individual home owners have their own wells and septic systems so there is nothing to support the growth of commerce and population in the area. Silver Lake SP utilizes a sewage lagoon and treatment system for their wastewater treatment.

Relationship of Silver Lake SP to Other Local Recreation Resources

In Oceana County, there are many other recreational opportunities besides Silver Lake SP. Charles Mears SP is located approximately 16 miles northeast of Silver Lake SP in Pentwater. Situated on the Lake Michigan shoreline, Mears SP contains 50 acres of land including 175 campsites. Mears SP provides recreational opportunities including camping, fishing, hiking, swimming, picnic area, and The Pentwater Pier, a lighthouse, which is a popular attraction near the park.



Aerial View of Charles Mears State Park

The Hart-Montague Trail SP is located to the east of Silver Lake SP with its parking lot being ¼ mile east of the city of Hart on Polk Road in Oceana County. It is a paved 22 mile trail that runs mostly north and south with the southern section being in northern Muskegon County. This trail provides opportunities for biking, cross country skiing, hiking, bird watching, and snowmobiling if more than 4” of snow or

more is on the ground. Scenic overlooks and picnic areas are also located along the Hart-Montague Trail SP.



Hart-Montague Trail State Park

Many local county, township and private parks can be found in the surrounding area of Mears, Hart, and Oceana County besides the two state parks. These parks offer a variety of recreational activities like swimming, camping, picnicking, and fishing, to name a few. Many restaurants, attractions, and shopping places also compliment this area.

Many recreational opportunities exist in the counties neighboring Oceana County. Mason County to the north of Oceana County has Ludington SP, situated on Lake Michigan and Hamlin Lake, which provides endless recreational opportunities such as, hunting, hiking, swimming, fishing, canoeing, biking, boating, and cross country skiing. The park is comprised of nearly 5,300 acres of scenic sand dunes, shoreline vista, ponds, marshlands and forests. There are several miles of shoreline and beaches on both bodies of water. There are three modern campgrounds with a combined total of 355 campsites including three mini-cabins. The park is also the home to The Great Lakes Visitor Center that offers an outdoor interpretive facility, which is a very popular attraction at Ludington SP. It offers interesting displays, slide presentations, videos and live programs that provide visitors of all ages with a better understanding of the local wildlife, geology, and history unique to the Great Lakes. Ludington SP is also the home of the Big Sable Point Lighthouse, a 112 foot tall lighthouse that was built in 1867. Tours of the lighthouse are usually available from the beginning of May through the end of October.



Aerial View of Ludington State Park

Newaygo County to the east of Oceana County has Newaygo SP, which overlooks Hardy Dam Pond, a six-mile flooding of the Muskegon River.



Newaygo State Park Entrance Sign

The park provides a rustic camping experience on 257 acres including 99 campsites that are nestled in oak and poplar forests and are noted for their large, private sites and scenic beauty. Popular fish caught on the Hardy Dam Pond include walleye and both largemouth and smallmouth bass.

Muskegon County lies to the south of Oceana County and contains three State Parks located along the Lake Michigan shoreline. Duck Lake SP has 728 acres and is ideal for Day-Use activities such as boating, hiking, hunting, and days at the beach. The park stretches from the northern shore of Duck Lake to Lake Michigan. The land includes a towering sand dune and a mixture of open brush land to mature hardwood forest, with some pockets of open meadows mixed in.



Duck Lake State Park at Sunset

Muskegon SP provides 1,165 acres of land with 239 campsites. Fishing, swimming, boating, a winter sports complex that offers cross county skiing, skating, and a luge track along with a nature observation area are just some of the things that guests can do at Muskegon SP. The park has over two miles of shoreline on Lake Michigan and over a mile on Muskegon Lake. The vast expanse of Great Lakes sand beach ranks among the most beautiful in the world. Forested dunes that join miles of Great Lakes shoreline reflect a significant resource that visitors enjoy each year.



Aerial View of Muskegon State Park

P.J. Hoffmaster SP is also located in Muskegon County. This park provides 293 campsites, swimming, hiking, skiing, and picnic areas on 1,200 acres of land. It also features forest-covered dunes along nearly three miles of shoreline along Lake Michigan. The park is also the home of The Gillette Visitor Center. This facility is facing a towering sand dune, and is recognized as one of the top attractions in the Midwest. The center has a variety of programs that help visitors enjoy and understand the unique environment of the sand dunes of the Great Lakes. The center features an exhibit hall depicting the ecological zones of the unique dune environment. There are also multimedia presentations on the dunes and seasonal nature subjects are shown in an 82-seat auditorium.



P.J. Hoffmaster State Park

The Manistee National Forest (NF) is scattered throughout Oceana County and its surrounding counties. The Manistee NF contains approximately 530,000 acres of land scattered throughout Oceana County and west Michigan. The Huron and Manistee National Forests comprise more than one million acres of land in the Lower Peninsula. These areas provide many recreational opportunities such as fishing, camping, boating, snowmobiling, cross county skiing, and hunting.



Manistee National Forest – U.S. Forest Service

The Pere Marquette State Forest (SF) lies in northwestern portions of Oceana County and twelve other northern and western counties in Michigan's Lower Peninsula. The Pere Marquette SF offers an area for hiking, biking, and cross county skiing. The North County National Scenic Trail, with its national headquarters in Lowell, Michigan, is a 4600 mile footpath that connects communities, forests, and prairies across seven states from North Dakota to New York. The North Country National Scenic Trail has 65 miles of trail within the Pere Marquette SF.



North Country National Scenic Trail

The Pentwater River State Game Area is located within Oceana County. This game area has the Pentwater Pathway, which is 15 miles of maintained trails under the care of the Oceana Cross Country Ski Association and the Michigan Wildlife Division of the DNR. With four loops ranging in size this area is open to cross-country skiing, mountain biking, and hiking. The Pentwater River State Game Area is generally hunted for deer, grouse, woodcock, duck and geese. Additionally, the Charles Mears Farm Barn, built in 1862, is located just south-east of the Village of Pentwater in the State Game Area. It is the site of early Oceana County experimental orchard cultivation practices conducted by Charles Mears.



Pentwater Pathway



Charles Mears Farm Barn

The Walkinshaw Wetlands Preserve is also located in Oceana County. This preserve was named after the former Lawrence H. Walkinshaw (1904-1993) who studied and wrote books about cranes, Kirtland's warbler, and eastern field sparrows. A farm that was purchased by the Nature Conservancy in Oceana County was eventually turned over to the U.S. Forest Service for a nature preserve and the name of Walkinshaw Wetlands was given in his honor.



**Lawrence H. Walkinshaw
1904–1993**

Silver Lake State Park Natural Resources

The following information was taken directly from the Natural Features Inventory and Management Recommendations for Silver Lake State Park in January 2003.

Geology and Topography

“Silver Lake State Park is located within the Northern Lacustrine-Influenced Lower Michigan Section (VII) and the Manistee Subsection (VII.4). The subsection is composed of sand dunes, sand lake plain, end moraines, ground moraines, and outwash plains along the west coast of the state. Despite the diverse physiography, no sub-subsections were identified because the climate of the entire subsection is strongly moderated by Lake Michigan.”

Several rare geological features occur within Silver Lake SP. Open dunes along the beach and shoreline embrace up to 26 native plant species. Geographical features include unperched dunes which are extensive sand deposits that have a bluff towards Silver Lake. Great Lakes barrens and interdunal wetlands (nearly all of these ponds no longer exist except within the ORV Area) are also found in Silver Lake SP.

Presettlement Vegetation

“Based on surveys conducted by the General Land Office (GLO) in the mid 1800’s, Michigan Natural Features Inventory (MNF) staff mapped a large area of open dunes extending from Silver Lake to Lake Michigan, with red pine-white pine forest to the north of the open dunes and white pine-white oak forest to the south. The surrounding landscape was mapped as primarily beech-sugar maple-hemlock forest. Within the area mapped as open dune, the surveyors frequently made comments such as “loose drifting sand, no trees” or “open dunes, no trees,” which indicate that they were not forested. However, tree species, including 12 to 18-inch diameter white pine, scattered mature black oak, big tooth aspen, red pine, and hemlock were occasionally recorded within the area mapped as open dunes. Several willow trees were recorded along the shore of Lake Michigan. To the north of the open dunes, in the area mapped as red pine-white pine forest, the surveyors recorded white pine trees 8-18 inches in diameter. There was no reference made to jack pine by surveyors, which is now the dominant pine species adjacent to the interdunal wetlands (rapidly vanishing) within the park. Most of the surveyors used the term “spruce pine” for jack pine. It may be that some of the smaller diameter pines noted by the surveyors were actually jack pine rather than white pine.

South of the open dunes, in the area mapped as white-pine-white oak forest, the surveyors recorded a variety of species including white pine, white oak, red pine, black oak, beech, and hemlock. Hemlock and beech trees were frequently recorded in this area, and hemlock trees as large as 24 inches in diameter were common. Most of the surrounding landscape was mapped as beech-sugar maple-hemlock forest. Many trees species, including beech, sugar maple, hemlock, white oak, white pine, black oak, American elm, black cherry, and white ash were recorded, and some of the white pines were as large as 36 inches in diameter.”

Present Vegetation

“The open dunes of Silver Lake State Park are among the most degraded within the state, with open, blowing sand extending from the Off-Road Vehicle Area in the north, along the entire western edge of Silver Lake.

There is evidence that there were catastrophic fire events in the past that deforested Silver Lake State Park and other coastal dunes at about 500 year intervals. In contrast, after such catastrophic fire episodes the succession process of re-vegetation would have immediately begun. It should be recalled that the geological research conducted by Fisher and Loope pointed out that, similar to other coastal areas along Lake Michigan, the dunes began a more active phase between 150 – 450 years ago and long before there was any motorized traffic. However, “activity in the ORV Area will prevent stabilization of those dunes and will supply sand outside the ORV Area, nourishing those dunes downwind of the dunes, delaying their stabilization.”

Between Lake Michigan and these un-vegetated dunes there is an equally wide zone that supports a high-quality mosaic of open dune, jack-pine dominated Great Lakes barrens, and interdunal wetlands. Silver Lake State Parks examples of both the interdunal wetlands and barrens are recognized as some of the best in the state. Degraded dry-mesic northern forests with small inclusions of mesic northern forest are common in the northern part of the park, north of Silver Lake.”

At present the interdunal ponds are quickly disappearing because of the low water table and the movement of loose blow-sand filling the low areas. Because of periodic vehicle activity, interdunal ponds still exist within the ORV Area providing habitat for the fauna that have relocated to that area.

Flora

Oak, maple, beech, birch, ash, and pines primarily make up the flora of this park. Silver Lake SP also contains juniper, cedar, poplar, dogwoods, raspberries, and other berry bushes as well as dune grasses. Black locusts, walnut trees, some elm, and river bank grape inhabit the area. Nettles, poison ivy, poison sumac, and poison oak are also common.

The Michigan Natural Features Inventory for Silver Lake State Park in January 2003 place two special interest plant species in Silver Lake SP. Fascicled Broomrape, scientific name *Orobanche Fasciculata*, and Pitcher’s Thistle, scientific name *Cirsium Pitcheri*, are both threatened in the state of Michigan and have been observed at one time in Silver Lake SP. The Pitcher’s Thistle was last observed in 1990 and is also federally threatened. The Fascicled Broomrape was last observed in 1960 and surveys were done in 1981 to relocate it but were unsuccessful.



Fascicled Broomrape



Pitcher's Thistle

Fauna

Mammals commonly found at Silver Lake SP include white-tailed deer, rabbits, and black, red, and grey squirrels. Chipmunks, coyotes, fox, raccoons, skunks, woodchucks, moles, muskrats, and mice inhabit the area. Eastern hognose, blueracer, and garter snakes also live in the park as well as several types of turtles and toads.

Silver Lake SP contains Silver Lake, Silver Lake Channel or Creek, and borders on Lake Michigan, so many different types of fish inhabit the area. Perch, large and smallmouth bass, bluegill and other panfish are a few types commonly caught on the lake. Steelhead, trout, salmon, northern pike, and walleye are also in the area.

The Michigan Natural Features Inventory for Silver Lake State Park in January 2003 places one special interest species in Silver Lake SP. The Dune Cutworm, scientific name *Euxoa Aurulenta*, is a documented rare animal species identified in Silver Lake SP. The dune cutworm was last observed in 1992 but was collected as part of surveys done in 1967, 1982, 1990, and 1992. Since the dune cutworm was collected four times during the twenty-five year study it could indicate that the population is somewhat secure.



Dune Cutworm

Many different types of birds inhabit the area as well as use the area for a migration stop. Robins, cardinals, woodpeckers, and numerous types of ducks can be spotted on a regular basis. Hawks, geese, swans, blue herons, and owls are important

aspect of this park. Seagulls, crows, pheasants, grosbeak, and numerous types of song birds inhabit the area. Insects are also common to the area.

The following information was taken from the State of Michigan Environmental Assessment of Silver Lake State Park in February 1977:

Soils

“Throughout the area, the dominant soils are sands and sandy loams. Organic materials are generally associated with lakes, drainage courses, and pot holes. The predominant soil types are Deer Park, Dune Sand, and Rubicon Sands. The Dune Sand is located between Lake Michigan and Silver Lake where the sand is gradually moving inland in shifting sand dunes.”

Silver Lake State Park Historic/Cultural Resources

Archeological Resources

Based on the Hinsdale Report of 1931 and on foundation ruins and hearsay, Silver Lake SP is known to have six archaeological sites located in the park. Three of the sites are pre-historic, and the other three are historic sites (after European contact). Three are located on the Lake Michigan side of the park and the other three are located on the Silver Lake side of the park. Shifting dunes and high water along the Lake Michigan and Silver Lake shorelines may have impacted these archaeological areas in the park. Overall, there has been no formal archaeological survey of the park.

Based on the recommendations of the Stewardship Plan, any land change activities in the park that involve excavation of soil, such as construction of burn lines for controlled burns in prairie restoration, installation of underground utilities, or installation of building foundations (to name a few) must undergo an archaeological review to determine their potential impact on the cultural/historic resources of the park.

Physical Environment

The Little Point Sable Light Station construction started in April 1873 and was completed in the spring of 1874 for the new shipping season. The Light Station Tower still remains and is located in the southwest portion of the park. At one time there was a one and half story dwelling which housed the keeper, a brick lean-to for wood storage, and a barn that was built in 1889 all adjacent to the lighthouse. In 1955 the station became unmanned and everything but the tower was torn down.



Little Sable Point Light Station

Cultural Environment

Native Americans occupied the state of Michigan over a long period of history and hunted, fished, and farmed the land. There are no known indicators of Native American occupation in the park, but this part of the state was influenced by the tribes. Silver Lake SP has been advised by a local archeological society of the potential existence of an Indian settlement in the southwestern portion of the park. If this is true the land was likely occupied by either the Chippewa or the Ottawa Tribes. Native people were known to have had encampments to the north of the ORV Area as well.

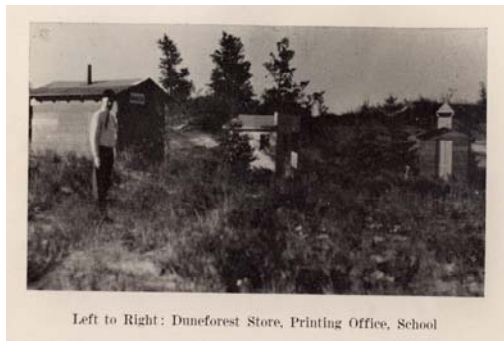
Buildings and Structures

The only historic structure still found in the park is the above referenced Little Sable Point Light Station. The Sable Point Lighthouse Keepers Association and the Oceana County Lighthouse Seekers groups conduct tours for the light tower during the summer months and are involved with restoration and associated interpretation projects year around.

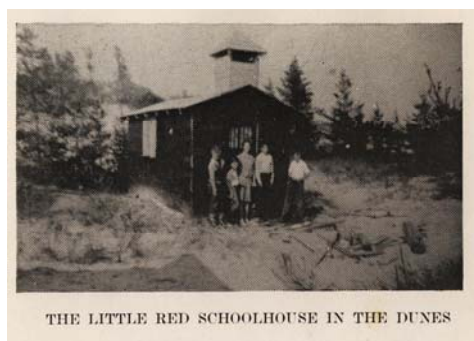


Little Sable Point Light Station

Other structures are reported to be buried in the dune area. There are photos that exist of houses being covered in years past and it is recorded that a farm along the southwestern corner of Silver Lake was eventually covered by sand. For a number of years there were still fruit trees from this farm that could be seen along the Mac Wood Scenic Dune Ride roadway. The Dune Forest Village, constructed by Swift Lathers as part of his homestead in the dunes, was removed by State Park personnel in 1978 because of its demise and decay since it was built as well as the heavy deterioration of the structures and the extensive vandalism that had taken place in previous years.



Left to Right: DuneForest Store, Printing Office, School



THE LITTLE RED SCHOOLHOUSE IN THE DUNES

Dune Forest Village Picture/Painting

Other remnants of buried historical sites include sites of Late Woodland Period (from 1500 to about 400 years ago) occupation that include a prehistoric cemetery that has been covered over the years by the advancing and dunes.

Historic Landscape

The main historic landscapes at the park would be the Light Station complex, as discussed previously, which now only has the tower. Historic landscapes associated with the Light Station property include what are now private residential holdings and the historic farmstead that included fields and areas around where the farmhouse, barns and outbuildings once stood that are now covered by the advancing sand dunes.

Silver Lake State Park Land Acquisition

The 3,085 acres of state ownership includes a significant dune area with hardwood forests and frontage on Lake Michigan and Silver Lake. Various acquisition sources have been utilized over the years, including:

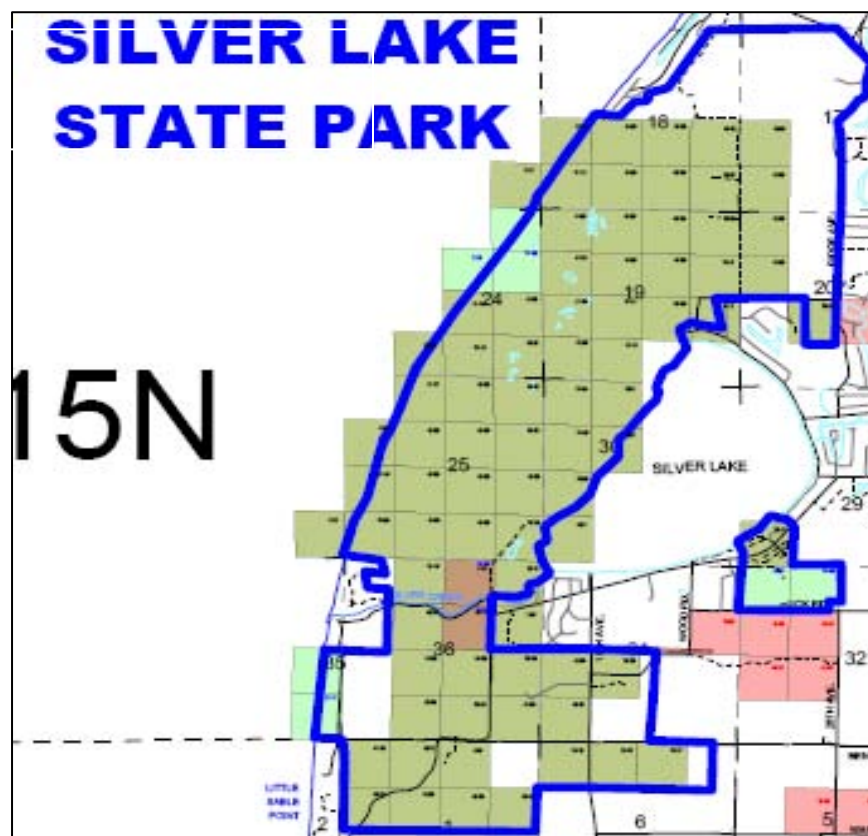
- Special Legislation – Approximately 443.42 acres of park land has been acquired with this source. It is utilized for general program purposes.
- Michigan Natural Resources Trust Fund (MNRTF) – Approximately 173.74 acres of park land has been acquired with this source. It is utilized for general program purposes.
- State Game Fund – Acquisition of lands with this funding source are for obtained from a \$1.50 of the deer hunting license fee. Approximately 1,077.27 acres of park land has been acquired with this source.
- Gift – Approximately 26.94 acres of park land or rights of land was donated to the State of Michigan and is utilized for general park purposes.
- Game and Fish Fund – This category includes approximately 41 acres of park land that is used for general purposes.
- Federal Land and Water Conservation Fund – Approximately 306.13 acres of park land included was acquired from this fund source which was established by Congress in 1965. The act designated that a portion of receipts from offshore oil and gas leases be placed in a fund annually for state and local conservation.
- Recreation Bond Fund – Approximately 129.77 acres of park land was acquired with proceeds of sales of general obligation bonds issued

pursuant to part 713 and any premium and accrued interest received on the delivery of bonds for general park purposes.

- Tax Reverted – Approximately 665.77 acres of park land was acquisitioned through tax reverted procedures.
- Land Exchanged – Approximately 15.35 acres of park land was acquired from being exchanged from a local property owner.
- Granted Easement – Approximately 38.12 acres of park land was acquired from being granted an easement from the Michigan Department of Transportation (MDOT).

Recommended Park Boundary Change

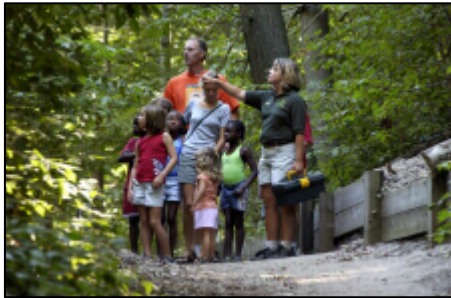
The Natural Resource Commission has subsequently approved a recommended boundary change for Silver Lake SP that includes additional land to the north and at the northeast section of the park as well as plots of land in the south end of the park.



Silver Lake State Park Education, Interpretation, and Volunteering

Interpretive Programming and Displays

Silver Lake SP is one of 41 state parks in Michigan where the State Park Explorer Guide Program is an active part of the educational experience. These explore guides are armed with field guides, animal skins, bug boxes and other hands-on materials, to lead informal programs and hikes that feature each location's unique natural, cultural and historic resources. Program topics include forests, insects, night hikes, pond studies and other topics covering the variety of plants, animals and natural features found within each park. These programs are designed for children and adults, often in a family setting. At Silver Lake SP, the interpreter conducts outdoor classroom sessions and has focused on the sand dunes and other natural features of the area as a key element of those learning experiences.



A Michigan State Park Explorer Guide Leading a Program

Mac Wood's Scenic Dune Rides offers interpretation of the dunes during their dune adventure ride and has been in operation for more than 75 years. History, flora, fauna, and how the area was developed are covered in their rides.



Mac Wood's Scenic Dune Rides

There is an informational kiosk on display in Silver Lake SP. It is located by Little Sable Point Light Station and interprets Lake Michigan and the sand dunes. There have been a number of requests to put a visitor center within Silver Lake SP. Even though there is no current project underway the possibility does exist at Silver Lake SP.

Volunteer Programs

Silver Lake SP is very popular with the Campground Host Program whereby volunteers, often retirees, stay at Silver Lake SP and provide visitor services for the campers. They greet campers, assist boaters, help users gain orderly access to the boat launch, assist campground office personnel, provide information on campground rules and regulations, promote educational and interpretive opportunities in the park, and offer a social gathering, typically coffee hour, every Saturday and Sunday morning. Hosts at Silver Lake have also developed special programs with local agencies, such as the police departments and emergency response agencies, provided craft opportunities, and hosted different events. Campground hosts usually work in Silver Lake SP from mid May to the first part of October.



Michigan State Park Campground Host Filling a Kiosk

The Friends Group, Sable Points Lighthouse Keepers Association, which the Oceana County Lighthouse Seekers group had chosen to join forces with earlier, are groups in the past that did interpretive programs for the lighthouse, but now they focus on combining restoration projects with interpretive programs and tours during the summer season. They also do cleanups along the Lake Michigan beach in front of the tower and take care of all Light Station inquiries and are actively involved with restoration of the tower, navigational light, and the surrounding grounds.

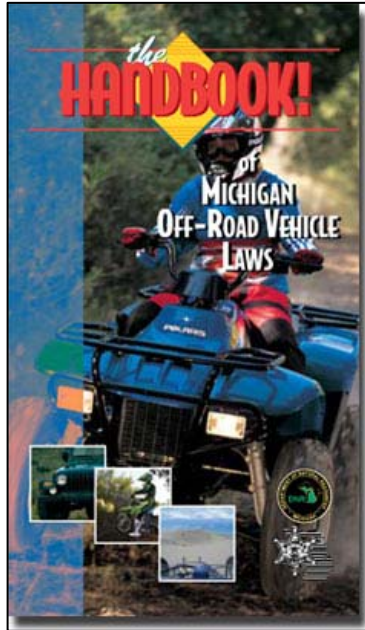
Volunteer groups that come in to clean up the dunes also include off-roading clubs who clean the ORV Area and north end of the dunes.

Educational Opportunities

Over the years many different groups have utilized the dunes for the educational opportunities that exist. Biology classes from local schools have visited the interdunal wetlands for a unique learning experience. University geology classes

have studied the dunes. Flora, fauna and geology have also been studied by individuals as well as the United State Geological Survey (USGS).

In the past, Silver Lake SP instrumented ORV youth safety courses. Currently they do not offer these courses but some local agencies in the state do.



Michigan ORV Law Handbook

Park Use Statistics and Economic Impacts-2010

PARK USE – Silver Lake SP had 813,638 visitors in 2010 (Of these 10% were campers and 90% were day-users). Non-Michigan resident attendance makes up 20% of the use at the ORV Area annually. Total revenues (Motor Vehicle Permits, Camping Fees, Use Permits, Leases, and Concession and Vending Services) generated by the park in 2010 were \$1,444,974.

Characterization of park use is described as follows: (based on MDNR-Park Attendance Statistics)

- *Summer Use Season – This is defined as the three month period of July through September. 76.9% of all camping and 76.9% of all day-use takes place during these months.*

- *Fall Use Season – At Silver Lake SP, the fall season is defined by the month of October. Approximately 2% of all camping activity and 2.3% of all day-use occur during this time. Most day-use activity in October is at the ORV Area.*

- Winter Use Season – November through March mark the winter season of Silver Lake SP accounting for virtually no camping use and less than 1% of day-use. Local businesses within the community are closed for the most part except for one general merchandise/gasoline store and two automotive supply/catalog outlets.
- Spring Use Season – The months of April through June make up the spring season and show increasing park use in both categories from the winter season. Camping use is at 21.1% and day-use is at 20% for 2010.

ECONOMIC IMPACTS - Michigan State University (Dr. Dan Stynes) developed an economic analysis model known as “MGM2”. This model is an update of the MGM model developed by Dr. Ken Hornback for the National Park System in 1995. The purpose of the updated MGM2 model is to estimate the impact of park visitor spending on the local economy. These economic impacts are reflected in terms of sales, income, employment, and value added.

This analysis tool, like others, relies on three primary factors in the common equation:

Economic Impact of Tourism Spending = Number of Tourists (x) Average Spending per Visitor (x) Multiplier (to estimate extended effects of direct spending).

For our purposes of conducting a very basic review of impacts, we have utilized the “MGM2-Short Form” version of the program, which simplifies the extent of analysis required for input, and utilizes more generalized multipliers for spending outputs. For the non-economist, this provides an excellent tool for establishing a baseline assessment of the economic impacts of our parks.

Economic impacts of Silver Lake SP to the local community are significant. Oceana County is a boasts a stable position in the economy in spite of fluctuations across the state. Its diverse economy and natural amenities, such as Silver Lake SP, continually attract visitors to the area. The local economy benefits from the influx of this ‘new’ money to Oceana County.

Following are the relative economic impacts (based on 2010 data) of Silver Lake SP to the economy of Oceana County: (“MGM2-Short Form” for Silver Lake SP)

DIRECT ECONOMIC EFFECTS TO THE COMMUNITY FROM DAY-USE

- Direct spending attributable to Silver Lake SP visitors totaled \$12,015,000. Of this, \$7,724,030 is attributed to day-use, \$4,292,130 to camping within the park.

- Jobs totaled 378. This number includes both day-use (243) and camping (135) staff. (Note...jobs are not full-time equivalent. They include part-time and seasonal positions.)
- Personal Income total is \$4,086,000. Day-use generated \$2,626,820 of this, while camping activity generated \$1,459,340.
- Value added (total income plus business taxes) from day-use came in at \$3,965,810, camping at \$2,203,230, totaling value added at \$6,169,000.

TOTAL ECONOMIC EFFECTS TO THE COMMUNITY (NOTE...this reflects 'Direct Effects' plus the 'Secondary Effects' of visitor spending on the local economy. Secondary Effects (sometimes called 'Multiplier Effects') capture economic activity that results from the re-circulation of money spent by the park visitors in the community.

- Total spending = \$15,884,000 (32% over direct spending)
- Jobs = 442 (17% over direct job impacts)
- Personal Income = \$5,375,000 (32% over direct spending)
- Value added = \$8,553,000 (39% over direct value added)

NOTE...for purposes of updating economic values, the Consumer Price Index (CPI) is often used to adjust values over time. Through the following link, [<http://www.bls.gov/home.htm>] a CPI Inflation Calculator is located in the category of "Inflation and Consumer Spending".

From "MI CRS Statistics 2007" report by Spherix, the state contractor that administers the Campground Reservation System (CRS):

- Silver Lake SP was the eighteenth highest ranking park in the state of Michigan with 6,825 campground reservations during their 2007 camping season. Of the 98 State Parks and Recreational Areas (RA) in Michigan, 73 offer camping. Of those 73 State Parks and Recreational Areas, Ludington SP has the highest ranking with 15,725 reservations and Ortonville RA was the lowest in the state with 27 reservations. Of those 6,825 reservations, 2,149 were made by way of the Call Center, 1-800-44-Parks, 1,497 were made directly at Silver Lake SP, and the remaining 3,179 were made by way of the on-line reservation system at, <http://www.midnrreservations.com/campgrounds/index.cfm>.
- The average amount paid per reservation at Silver Lake SP was \$87.58, less than the state average of \$90.30. The high in the state

was Craig Lake SP with \$256.25 and the low was Highland RA with \$25.97.

- The average number of people per reservation was 2.6, lower than the state average of 4.8 people. The high in the state was Highland RA with 15 people and the low in the state was Fayette Historic SP and Newaygo SP with 1.9 people per reservation.
- The average length of stay was 2.8 nights, slightly higher than the state average of 2.5 nights. The high in the state was Grand Haven SP with 4.6 nights and the low was Highland RA with 1.6 nights.
- Of the state parks and recreational areas that offer camping, Silver SP was the eighteenth highest ranking in overall park net campground nights with 21,289. Ludington SP was the highest with 60,773 nights and Ortonville RA was the lowest in the state with 55 nights.
- The top 10 cities that placed reservations at Silver Lake SP are Grand Rapids, Holland, Kalamazoo, Muskegon, Zeeland, Lansing, Hudsonville, Livonia, Rockford, and Waterford Michigan.

Silver Lake State Park Stakeholder Input

DNR Programs

Silver Lake SP has a long history of cooperative management with other Department of Natural Resources Divisions. The most considerable of these are with the Wildlife Division (WD), Fish Division (FD) and Forest Management (FMD) Divisions. The Law Enforcement Division (LED) has also long been involved with the park's operation by providing assistance with crowd control over summer holiday periods and routinely conducting ORV Area patrols throughout the season.

Another DNR program with a stake in Silver Lake SP is Education and Outreach (EO). Silver Lake is one of many parks where an "Explorer Guide" is located. This statewide program is administered by the DNR – Marketing, Education, and Technology (MET) Division. It places interpretive staff at Silver Lake SP for purposes of interacting with park visitors and exposing them to a variety of information. This person also conducts educational programming for park visitors, tailored to the unique resources of the park. In addition to this hands-on educational approach, EO also contributes to educational opportunities with the development and placement of informational kiosks and bulletin boards.

Local Agency Programs

Crystal Township neighbors Golden Township in Oceana County and has concerns about ORV use and abuse. The problem some residents of Crystal Township have raised is that when Silver Lake ORV Area is at full capacity the surplus or overflow traffic seems to head for the U.S. Forest Service lands within their area. The

Oceana County Drain Office, Oceana County Road Commission, Benona Township, Golden Township, and the Hart-Golden Fire/Rescue Department also have a stake in Silver Lake SP. The 34th District State Senator Gerald VanWoerkom, 100th District State Representative Geoff Hansen, Oceana County District 5 County Board Commissioner Larry Byl and Norm Myers of Oceana County Cooperative Extension Service also have stake in Silver Lake SP.

Private Sector

All adjoining property owners are categorically a stakeholder. The Silver Lake Dunes Corporation, Upper Silver Lake Property Owners Association, and Little Sable Point Association are property owner associations that have strong interest in the park and its operations.

Business ORganizations

Additionally, local business interests in both Hart and Mears in the surrounding area are stake holders as well. Park users do not spend their money just at the park...a significant amount of commerce takes place at local stores, restaurants and lodging locations. The Silver Lake Sand Dunes Area Chamber of Commerce, Hart-Silver Lake-Mears Chamber of Commerce and Silver Lake-Hart Convention and Visitors Bureau are closely aligned with Silver Lake SP programs.

Sporting Clubs/Recreation and Related Organizations

Mac Wood's Scenic Dune Rides operates within 400 acres of Silver Lake SP boundaries and has a stake in the park. The Oceana Cross Country Ski Association, the Off-Road Vehicle Trails Advisory Board, and the Big Sable Point Lighthouse Keepers Association of Ludington all have a stake in the park.

Special Interests

Lighthouse associations are a major stakeholder group for Silver Lake SP. Sable Points Lighthouse Keepers Association and the Lighthouse Seekers are organizations interested in Silver Lake SP and the Little Sable Point Light Station.

The Memorial Nature Preserve of Little Point Sable Association also has a stake in the park since they are a large and old property owners group lying south of the park and maintain a wildlife refuge area adjacent to the park's boundary.

Public

Many of the (900,000 +/-) park visitors who come to Silver Lake SP each year are repeat customers. This is true system wide. From the Public Policy Associates 1997 "Michigan State Parks Study", 65% to 68% of visitors to State Parks in the Northern Lower Peninsula are "Likely" to return to the park within twelve months. From the same study, the likelihood of a park visitor 'recommending' a particular park to others was also high in the Northern Lower Peninsula, with a range of 88% to 91% saying that they would recommend visiting the park.

PLANNING OVERVIEW

Meetings

9/29/05	Start-up Meeting
12/1/05	Planning Team Meeting
3/9/2006	Stakeholder Meeting
6/16/2006	Public Input Meeting

Plan Reviews

2/16/2011	PRD Management Team
1/5/2012	NLP EcoTeam
1/17/2012	DNR Statewide Council
2/9/2012	Michigan State Park Advisory Committee