

# **Department of Natural Resources**



## **FY 2021 Capital Outlay Five-Year Plan**

**Compiled by:  
Finance and Operations Division  
Budget and Central Support Services**

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# EXECUTIVE SUMMARY

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## Mission Statement

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

## Department Overview

The Department of Natural Resources was established in 1921 as the Department of Conservation for the purpose of managing and protecting the natural resources of the State of Michigan. Renamed the Department of Natural Resources in 1968, the Department is responsible for stewardship of the state's natural resources and for the provision of public outdoor recreation opportunities. While operating as a stand-alone agency, the DNR works collaboratively with the Department of Environment, Great Lakes, and Energy (EGLE) and the Michigan Department of Agriculture and Rural Development (MDARD) as members of the Quality of Life group.

The DNR administers a variety of programs that are largely managed by the Department's core resource divisions – Fisheries, Forest Resources, Minerals Management, Law Enforcement, Parks and Recreation, and Wildlife. Information on the programs administered by these divisions and the infrastructure that supports the programs is provided in the Infrastructure Detail section. There are also administrative divisions (e.g., Finance and Operations, Marketing and Outreach, Michigan History Center) that provide vital services in support of the operations of the Department's programs.

Well-maintained and functional facilities are needed to support programs such as state parks, state harbors and boating access sites, state forest campgrounds, state game areas, wildlife viewing areas, and fish hatcheries, as well as field offices and Customer Service Centers (offices). Nearly all the offices housing resource staff (12 of 13 Customer Service Centers and all 11 field offices) are state-owned facilities managed by the Department.

In addition to its operating infrastructure, the DNR manages extensive infrastructure related to its natural resource management, land management, and recreational responsibilities. This includes, but is not limited to, dams, bridges, trails, roads, harbors, boating access sites, shooting ranges, fish ladders, electrical systems, water systems, and sewer systems. Ongoing maintenance and repairs are needed to preserve the longevity of these assets and ensure the infrastructure remains operable, providing continued support for the programs and overall mission of the DNR. Proactive repair and replacement of critical infrastructure that is rapidly aging and deteriorating has become increasingly difficult due to the lack of available funding. With funding falling dramatically short of the amount needed to maintain, repair, and improve existing system infrastructure, a considerable backlog of necessary repairs and improvements has formed. As maintenance is deferred and needed repairs and improvements continue to go unaddressed due to the lack of available funding, the risk of infrastructure failure increases. As infrastructure failures occur, funding that is available must be directed toward emergency repairs, often at a much greater expense than preventative maintenance, repair, and replacement. The DNR must also plan and provide for unforeseen events such as fires, floods, tornados, storms, wave action, and other weather-related incidents that adversely impact infrastructure.

The DNR is continually searching for opportunities to secure additional financial support and leverage existing funding that is available for capital outlay needs. For instance, the DNR's capital outlay requests frequently include grants-in-aid to maintain, build, and expand locally owned recreational facilities related to boating.

These projects further the mission of the DNR without adding to the carrying costs of daily management or maintenance of infrastructure. Also, the DNR submits grant applications to request funding through the Michigan Natural Resources Trust Fund and seeks to fully utilize available federal funding. Where there is flexibility regarding the allocation of available funding, the DNR looks to established priorities to guide capital outlay planning. Priority projects are identified based on a predetermined strategy focusing on the following factors:

- Operational need
- Preventative maintenance
- Accessibility
- Recreational opportunities in or near urban areas
- Partnering/consolidation
- Energy-efficient facilities

This strategy for capital outlay planning interconnects with the overarching priorities established in the DNR's scorecard:

- Protect natural and cultural resources
- Enable sustainable recreation use and enjoyment
- Enable strong natural resource-based regional economies
- Improve upon and build strong relationships and partnerships
- Promote effective business practices and good governance

Specific performance metrics have been established with targets to define success and measure progress in achieving each of these priorities or desired outcomes. The DNR's scorecard can be accessed via the following link:

[http://www.michigan.gov/openmichigan/0,4648,7-266-60201\\_60939---,00.html](http://www.michigan.gov/openmichigan/0,4648,7-266-60201_60939---,00.html).

## **Department Strategies for Prioritization**

The DNR develops its capital outlay plans with a focus on the following priorities:

- Operational Need:

The critical nature of the Department's mission and responsibility to Michigan's citizens, taxpayers, and tourists mandates the Department's facilities be sufficient to meet their service functions. Full utilization of the Department's varied resources is dependent upon sufficient and functional facilities.

- Preventative Maintenance:

The Department must preserve its existing capital investments so that it may continue to fulfill its mission and provide services to Michigan residents. Effective preventative maintenance practices minimize costs over the long term, prevent health and safety hazards, and allow for minimal interruptions of service.

- Accessibility:

The Department must strive to ensure that its facilities, programs, and projects are barrier-free and accessible to all users. The Department's goals are to provide accessible recreation opportunities to Michigan residents and visitors and increase opportunities for public access to the state's natural resources.

- Recreational Opportunities in or Near Urban Areas:

The Department promotes recreation user recruitment and retention through the development and maintenance of facilities in or near urban areas. Additionally, state trail connectivity initiatives help create walkable communities and facilitate restoration of degraded urban natural resources to provide quality outdoor recreation opportunities.

- Partnering/Consolidation:

Where possible, the Department shares facilities with other state agencies and universities to promote efficiencies and maximize the use of available funding. The Department works with local government agencies and other entities to develop and maintain recreational opportunities for Michigan's residents.

- Energy-Efficient Facilities:

The Department seeks to promote energy-efficient facilities and reduce facility energy consumption. Opportunities include installing energy-efficient lights, water heaters, heating and ventilation systems, and low-flow plumbing fixtures. Proper maintenance of roofs, installation of building insulation, and the reduction of exterior air infiltration lead to further energy efficiencies. The Department is working to create renewable energy opportunities such as solar within select facilities and across state-owned land where applicable.

## **Department-Level Initiatives**

In line with the DNR's strategic focus, the priorities outlined in the Capital Outlay Five-Year Plan for Fiscal Years (FY) 2021 through 2025 were identified based on the following objectives:

1. Keep facilities safe and open to the public.
  - Focus on the most critical needs (e.g., infrastructure that is most at-risk for failure) to ensure facilities are functional and able to remain open to the public.
  - Perform preventative maintenance, as funding permits, to avoid health and safety hazards and to preserve the Department's capital investments.
2. Creatively leverage available funding, albeit limited.
  - Take advantage of opportunities to secure federal funding for projects.
  - Partner with local government agencies through the grant-in-aid program, maximizing project funding by supplementing available state funds with local match dollars.
  - Seek public-private partnership opportunities to secure funding.
3. Increase opportunities for public access to the State's natural resources.
  - Provide barrier-free access to facilities and recreational opportunities.
  - Give special consideration to the location of development as a means of creating new avenues for public access and expanding the user base.
4. Exhibit good environmental stewardship, incorporating energy-efficient and "green" components into construction projects whenever feasible.
5. Continue to seek sustainable funding sources for the DNR's significant capital outlay needs.

## **Programming Changes**

The Department created a Facility Management System database which contains square footage, construction dates, staffing levels, utility usage, network connectivity, pictures, Geographic Information System (GIS) coordinates, engineering and design plans, equipment manuals, and other related documents on DNR facilities across the state. In 2014 and 2015, the DNR used data in the Facility Management System to develop a "Facility Strategy Plan" to evaluate preventative maintenance and capital improvement needs and to identify ways to improve service delivery through strategic investment. The priorities that emerged from this process were to address maintenance needs of DNR-managed facilities, which average 42 years in age, and the realignment of customer service staff and facilities to fill current voids.

The Department has been working in partnership with the Department of Technology, Management and Budget (DTMB) and the Michigan Department of Transportation (MDOT) to develop an enterprise-wide asset management system to replace the existing database. Implementation of an enterprise-wide asset management system is a high priority for the Department.

In 2019, the Department formed an Asset Management Steering Committee consisting of division and Executive leadership to review, prioritize, and make decisions on assets based on long-range strategic visions. The workgroup is focused on consolidating office space, strategically replacing outdated facilities, eliminating obsolete facilities, and developing best practices for staff placement.

The Department formed sprint teams for renewable energy projects and climate change. The groups are working on project-specific items and are working closely with partners such as EGLE, DTE, Consumers Energy, and other utility providers to reduce energy consumption, costs, and the carbon footprint.

Part of this strategic realignment was accomplished in 2016 with the relocation of the Rose Lake Field Office to a newly purchased Lansing Customer Service Center located in Delhi Township. This location is in proximity to Michigan State University, a major research and educational partner, as well as major transportation corridors of US-127, I-496, and I-96. This realignment provides closer access for customers and allows for consolidation of staff from other locations. In 2018, a 22,000 square foot storage building was constructed across the street from the Lansing Customer Service Center to consolidate equipment throughout the area. As a result, the former Rose Lake Field Office and six other storage facilities were demolished in 2019.

Another example of strategic realignment completed in 2016 is the relocation of the Traverse City Field Office. The DNR replaced this facility with an existing property allowing for the consolidation of several leases; better storage facilities for equipment; and, location on M-37, a major transportation corridor, resulting in better visibility for and proximity to customers.

The Department expects to take possession of a newly constructed customer service center and storage facility in Sault Ste. Marie by the end of 2019. The new facility will replace the current facility constructed in the 1930s and will consolidate equipment in the surrounding areas. Upon acquisition of the new facility, ownership of the former field office and one other building will be transferred to the developer as part of the purchase agreement.

The DNR's Newberry Customer Service Center is within one half-mile of 40 acres of public land. The intent is to construct a state office building on this land to accommodate staffing needs and customer service for the DNR using mass timber construction and other energy efficient elements.

As the DNR aligns facilities and customer service locations with current needs, department staff will complete an assessment of all remaining infrastructure including beach houses, camper cabins, concessions, contact buildings, picnic shelters, fish cleaning stations, historic buildings, toilet and shower buildings, lighthouses, equestrian facilities, and other land improvements. The DNR's portfolio of facilities includes structures and locations that no longer meet strategic needs and require costly repairs that are of limited value. The strategic review and plan are designed to align the DNR's operational facility needs and resources.

The DNR looks to optimize utilization of current facilities through consolidation of staff and equipment where possible while still providing appropriate resource management and response. The DNR will strive to:

- Make facility decisions with a 25 to 50-year perspective based on broad operational needs across the department as appropriate.
- Identify internal resources and cost savings before requesting funds for new facilities.
- Utilize savings resulting from updated or closed locations to maintain, upgrade, or build facilities needed to meet DNR objectives.

## **INFRASTRUCTURE DETAIL**

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### **Department Operating Infrastructure General Background**

The Facilities, Operations, and Support Section (FOS) within the DNR Finance and Operations Division (FOD) is committed to maintaining the Department's operating infrastructure, which includes 13 Customer Service Centers (CSCs) and 11 field offices. Refer to Appendix A for a list of the various CSCs and field offices. Historically, the CSCs maintain standard hours when they are open to the public and have on-site staff representation from all DNR divisions. Field offices, while open to the public in certain locations, are staffed with division personnel based upon their geographic location (e.g., primarily supporting state forests in northern Michigan and state game areas in southern Michigan).

The Department's 24 administrative offices are distributed throughout the Upper and Lower Peninsulas. These offices provide administrative support to resource staff and customer service to thousands of telephone and walk-in customers annually. The FOS mission statement is "To provide our internal and external customers with professional, courteous, informative, and timely service while efficiently managing Department facilities in a safe and economical manner." This requires facilities that are accessible, operational, energy-efficient, and safe. The Department strategically considers the location of CSCs and field offices to ensure proximity to population centers, recreation destinations, and transportation travel corridors to provide services and information to as many customers as possible.

### **Inventory/Assessment**

Each year the CSC and field office infrastructure is inventoried and assessed for condition, critical needs, and preventative maintenance requirements. The average age of the CSCs and field offices is 42 years. The Newberry CSC is leased. The remaining 23 administrative offices are publicly-owned facilities. Only five new offices have been built or purchased since 1990 (Detroit CSC, Lansing CSC, Sault Ste. Marie CSC, and two buildings at Traverse City). All remaining state-owned offices need replacement work, accessibility improvements, preventative maintenance, and repairs. Many of the offices need new carpeting, paint, furniture, roofing improvements, and energy-efficiency improvements (e.g., new windows and high-efficiency heating, cooling, lighting and plumbing systems). Finally, upgrades to support technology, such as improving connectivity to the state network and replacing phone systems, are also needed across the state. The operating facility assessments address maintenance, health and safety, accessibility, and energy efficiency. The facility assessments were completed by four Department employees with over 70 combined years of facility management experience, some with professional skilled trade experience. As the primary facility managers, they coordinate with licensed contractors to identify the scope of work for improvements and the associated replacement costs.

### **Recent Accomplishments**

In 2016 and 2017, conversations with a local landowner and developer were initiated regarding construction of a 20,000-square foot storage building adjacent to the Lansing CSC. This building allowed for the demolition of seven storage buildings (average age of 52 years) on the Rose Lake campus, as well as the elimination of 8,200 square feet of space and the associated annual building occupancy cost of \$47,775. In 2017 a build to suit agreement was executed and construction of the new storage building was completed in August 2018. The Department took possession of the building in September 2018 and vacated the seven storage buildings at Rose Lake. Funding for the demolition at Rose Lake was provided by a DTMB enterprise-wide special maintenance allocation. The demolition was completed in October 2019 and the land was returned to its natural state.

Considering limited budgets intended primarily for utility bills, service contracts, and emergency repairs, many of the major capital outlay priority projects for the Department's operating infrastructure remain unfunded. In FY 2018, the Department received \$1,250,000 in financial support from enterprise-wide special maintenance funding appropriated to DTMB for the replacement of the siphon tube at the Shiawassee River State Game Area. This resulted in no funding for the backlog of maintenance items at the CSCs and field offices. In June 2018, the air-conditioning system at the Escanaba CSC failed. DTMB provided \$60,000 to replace the system. In August 2018, a lightning strike compromised a switch gear at a fish hatchery and DTMB provided \$250,000 for repairs.

## **Priorities**

As part of the comprehensive strategy for evaluating facilities across the state, additional locations have been identified as priorities, including the Newberry CSC and Mio and Stephenson Field Offices.

Within one-half mile to the north of the Newberry facility, the Department manages 40 acres of public land that contains a small complex of various storage and workshop buildings at the rear of the property. The Department had preliminary discussions with MDOT regarding the construction of a joint office building in this area. However, those conversations revealed MDOT's desire for a lessor-lessee relationship by which MDOT would lease space from the Department. Based on this information, the Department decided to move forward with planning the construction of a new Newberry CSC and storage facility. The facility would include 13,000 square feet for office and meeting rooms and 18,500 square feet of storage and be manufactured utilizing mass timber technology.

The Mio Field Office is a 6,116-square foot building that was built in 1962. A lease agreement is in place to accommodate Oscoda County Veterans Affairs. The Department's Forest Resources Division (FRD) wants to continue to have a presence in Mio for fire coverage. Staff continue to look for an alternate location to meet the needs of FRD and allow for the demolition of the Mio office building. The storage facility located on the site would be retained. Similarly, there is an opportunity to augment ownership and operations of the Stephenson Field Office by leasing a portion of the building, or by selling it to Menominee County for shared use with the local Sheriff Department. Historically, this location has served as a shared space with the County Sheriff Department. There is the desire to rekindle that relationship, as well as add a post for two state police officers. This facility, which includes heated and cold storage in addition to the office space, has an identified list of capital improvements at a cost exceeding \$305,000. Having additional tenants will not only ensure annual operating costs are met, it will help provide funding for the list of needs that includes a new roof, HVAC improvements, lighting and electrical upgrades, carpet replacement, window replacements, driveway/parking resurfacing, and interior renovations such as painting and new workstations. Conversations continued through 2019.

In 2015, a local private developer approached the Department with an interest in acquiring the Sault Ste. Marie Field Office, which comprises 3,122 square feet and was built in 1940. In addition to the age of the structure, deferred maintenance needs, and limited accessibility and storage space, the location is in a growing commercial district and has limitations with respect to parking, vehicular circulation, and flexibility for mobilization of heavy equipment when responding to fire emergencies. In 2017, a build to suit agreement was executed between the two parties and construction of a new 4,000-square foot CSC and 18,000-square foot storage building began in August 2018. Construction will be completed in 2019.

Priority projects for the Department's CSCs and field offices have been identified. Economic conditions and available funding will dictate the extent to which the Department is able to complete these projects. Maintenance and improvements will be limited to emergencies if funding is not received for special maintenance. Maintenance and improvements are needed across all 23 state-owned and Department-managed administrative offices. The types of needs identified include: new carpeting, new furniture, exterior and interior painting, energy-efficient HVAC and lighting upgrades, electrical upgrades, new storage garages and pole barns, office renovations and additions, roof replacements, parking lot paving and maintenance, and demolition of vacated and consolidated buildings that are no longer being utilized. Maintenance and improvements are critical to providing functional facilities, minimizing long-term costs, preventing health and safety hazards, and allowing for minimal service disruption.

## **Programming Changes**

The Department continues to assess the needs of its offices, as well as the location and number of offices around the state. The Department faces a variety of challenges, including maintenance issues and the inadequacy of facilities to store equipment or accommodate staff. An ongoing objective of the Department is to reduce lease obligations and transition to state-owned facilities that are strategically located and managed by the DNR.

In 2016 and 2017, the Department collaborated with the State Facilities Administration group from DTMB and MDOT to solicit software bids for a statewide enterprise asset management system. In October 2017, a contract was signed allowing the determination of business needs and configuration of that system to take place in 2017 and 2018. Overall goals include:

- A complete collection and assessment of all Department assets, including facilities, equipment, and land improvements.
- Streamlined processes for inspections and inventory updates.
- Alignment of workflow and work processes for identifying needs, prioritizing improvements, and developing capital outlay requests.
- Overall better data to inform decisions.

Implementation of an enterprise-wide asset management system is a high priority for the Department.

In October 2017, the Department drafted an overall asset management plan that provides a strategic approach for the next five to ten years pertaining to consolidating and realigning its overall footprint, expanding the asset management system used to make decisions, and leveraging divisional resources. This plan evolved from a 2014 plan and emphasizes optimizing Department resources with respect to sharing and maintaining equipment, managing and improving facilities, and mobilizing skilled labor.

In 2018, an Asset Management Steering Committee was formed and consists of assistant chiefs from each Division. The charge of the group is to foster and implement strategic asset management principles across the Department. Infrastructure and asset investments will be reviewed and coordinated within the Department and with other partners if possible. Assets will be reviewed to maximize value over lifecycles and leverage usage and funding to the fullest extent possible.

## **LAND MANAGEMENT**

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### **General Background**

The DNR manages approximately 4.6 million acres of public land throughout the state. This land is inventoried in the Land Ownership Tracking System (LOTS), which includes the Minerals Management System and other related subsystems. LOTS maintains the ownership history of DNR-managed public land and is the largest land transaction management system in the state. It serves as the basis for more advanced systems, such as resource mapping, and is used to process real estate transactions from initial stages through posting.

The DNR continues to sell parcels that were identified as “surplus” in a land review completed several years ago. To make effective use of land determined to be surplus, the DNR is working to convey these parcels in a manner that: 1) provides for the continued protection of important natural and cultural resource or recreation values; 2) provides a means to purchase or exchange for more desirable replacement land; and/or 3) supports local economic activities.

The Department’s priorities for acquisition include private land in-holdings to consolidate existing public land ownership, land to protect key wetlands, winter deer complexes, land to protect rare species habitats, and land to provide additional public access. Consolidation of land and disposing of non-contiguous land allows the DNR to manage these resources in an effective and efficient manner.

The DNR purchases and maintains equipment for stewardship of land and infrastructure. Replacement of old and unsafe equipment, such as bulldozers, loaders, tractors, and dump trucks, is a priority. The use of DNR staff and equipment is cost-effective for maintenance. For large projects that involve bridge replacements or repairs, contractors and oversight are needed.

## **Inventory/Assessment**

Pertinent information related to all DNR-managed public land is recorded in LOTS. Assessments of infrastructure condition are ongoing. These assessments are carried out by the appropriate land-managing divisions (Forest Resources, Parks and Recreation, Fisheries, and Wildlife).

## **Recent Accomplishments**

The DNR is responsible for tracking, reporting, and managing ownership and various complex business transactions related to over six million acres of land. These transactions generate significant revenue for the State of Michigan and its businesses and communities, and require a significant amount of data collection, record keeping, and accounting. To accomplish these tasks, a new software system that integrates several data sources and systems was required. A contract to build such an application was executed with Kunz, Leigh & Associates Inc. in 2016. The application consolidates the legacy LOTS, the Payment In Lieu of Taxes (PILT) database, and the Swamp Tax system into one solution. The application was completed in March 2019.

## **Priorities**

For FY 2020, the DNR's Real Estate and Resource Assessment Sections plan to work with DTMB on launching a public interface that will provide selected LOTS data to the general public. DNR parcel, document, and lease information will be housed in a searchable map that will allow the public to search downloaded queried documents. A DNR webserver has been created to host a copy of the LOTS documents (i.e., deeds, easements, and leases). The Resource Assessment Section is working on the public-facing application, which is expected to be published on the DNR's webpage by June 2020.

To expedite the field review process required on land transaction applications received to either purchase or exchange DNR-managed lands, the Department seeks to create an online submittal form for FY 2021 through 2025. Potentially utilizing Environmental Systems Research Institute's (ESRI) technology, the system will provide Geographic Information System (GIS) data on the land, allow for multiple reviews to be completed in real time, and allow the lead land-managing division to monitor and coordinate the review process from a single site.

## **Programming Changes**

Legislation enacted in 2018 removed the cap on the number of acres of public land the DNR can manage. In Public Act (PA) 240 of 2018, the legislature approved the DNR-Managed Public Land Strategy dated

July 1, 2013. Beginning July 1, 2021 and every six years thereafter, the DNR shall update the plan including collaboration with local governments and stakeholders. In addition, PA 240 of 2018 requires public notice for sales, purchases, leases, and development on parcels over 80 acres.

The DNR-Managed Public Land Strategy and appendices, PA 240 of 2018, and the number of acres the Department manages are posted on the DNR website, which can be accessed via the following link:

[https://www.michigan.gov/dnr/0,4570,7-350-79136\\_79262---,00.html](https://www.michigan.gov/dnr/0,4570,7-350-79136_79262---,00.html)

In addition, with the enactment of Public Act 238 of 2018, the Legislature implemented requirements regarding applications for land sales and land exchanges. The DNR must make a final decision within six months of receipt of a completed application. More detailed information regarding lands sales and exchanges can be found on the DNR website, which can be accessed via the following link:

[https://www.michigan.gov/dnr/0,4570,7-350-79136\\_79612---,00.html](https://www.michigan.gov/dnr/0,4570,7-350-79136_79612---,00.html)

# FISHERIES INFRASTRUCTURE, FACILITIES, AND EQUIPMENT

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## General Background

### Hatcheries

These facilities include: six state fish hatcheries (Harrietta, Marquette, Oden, Platte River, Thompson, and Wolf Lake); one cooperative Atlantic salmon hatchery (Lake Superior State University); one cooperative lake sturgeon hatchery (Black River Fish Hatchery); two portable lake sturgeon hatchery trailers; six permanent salmon harvest weirs, three of which serve as egg take stations; and more than thirty extensive coolwater rearing ponds. These facilities currently have an estimated capital value of nearly \$139 million. The Department's hatcheries typically produce approximately 7 million trout and salmon and up to 30 million walleye, muskies, and sturgeon annually. At this level of output, approximately 300 to 400 tons of fish are produced each year for stocking in Michigan's public fishing waters. Details about each state fish hatchery are provided below:

- **Harrietta State Fish Hatchery, Harrietta, MI:** The hatchery was first opened in 1901 and is the oldest continuously operating state fish hatchery. Harrietta was completely rebuilt in 1979, with minor improvements completed in 1994 and 1999. It is a major rearing facility for rainbow trout (mostly for inland waters), brown trout (both inland and Great Lakes waters), and Atlantic Salmon (Great Lakes waters).
- **Marquette State Fish Hatchery, Marquette, MI:** The hatchery began operating in 1920 and was substantially renovated in 1994. It is the primary captive broodstock and rearing facility for brook trout that are used in inland waters and lake trout that are used in both inland and Great Lakes waters. The hatchery also rears splake (a brook trout/lake trout hybrid) for both Great Lakes and inland waters.
- **Oden State Fish Hatchery, Oden, MI:** Opened in 1921, the facility was completely rebuilt in 2002. This facility is the brown and rainbow trout captive broodstock station and is a major rearing facility for those two species.
- **Platte River State Fish Hatchery, Honor, MI:** Opened in 1928, the hatchery raises Coho, Chinook, and Atlantic salmon and incubates walleye. The facility underwent a partial renovation that was completed in 2004. The Platte River State Fish Hatchery is the sole egg take station and production hatchery for Coho salmon in Michigan.
- **Thompson State Fish Hatchery, Thompson, MI:** The hatchery was opened in 1920 and was completely renovated in 1978. The facility can produce a wide range of fish species for both inland and Great Lakes waters because of its unique combination of cold and warm groundwater supplies. Current production includes steelhead, Chinook salmon, and walleye. The Thompson State Fish Hatchery received FY 2016 capital outlay planning funds and FY 2018 construction authorization for improvements to steelhead production facilities, as well as the construction of a coolwater production facility. Design through phase 400 is complete.
- **Wolf Lake State Fish Hatchery, Mattawan, MI:** Established in 1927, the hatchery was completely renovated in 1983 with minor renovation work on the effluent management system done in 1999. This facility produces a wide range of fish species for both inland and Great Lakes waters. Coldwater species produced at Wolf Lake State Fish Hatchery for Great Lakes waters include steelhead trout and Chinook salmon. Coolwater species that are currently produced in limited quantities at this facility include walleye and muskellunge.

To complete the fish production mission, Fisheries Division maintains a fleet of 18 specialized fish transportation trucks that move fish to stocking sites from fish hatcheries. To further support fish production efforts, Fisheries Division funds a cooperative Aquatic Animal Health Unit with Michigan State University to diagnose and manage pathogens in both wild and hatchery populations; a cooperative fish marking program that annually marks between three million to eight million fish with physical or chemical marks to allow for program evaluation; and a fish quality program to ensure the fish from the state's hatchery system are able to perform as desired by Fisheries Division managers. To ensure the fish production facilities can produce the required fish, each hatchery has highly trained maintenance staff supported by system-wide fish transportation and electronics specialists. According to industry

standards, two percent of the capital costs should be budgeted annually for facility maintenance, assuming the programmed facility life is 50 years.

### Research Stations

Fisheries Division maintains seven research stations, of which five are staffed, and four Great Lakes survey and assessment vessels for the primary purpose of providing scientific information for aquatic resource management decisions. Additionally, Fisheries Division funds a cooperative fisheries research unit, the Partnership for Ecosystem Research and Management, at Michigan State University. Research station activities include monitoring and assessing Great Lakes fisheries, inland fisheries, and other aquatic resources and conducting key management experiments to develop new and test implemented fisheries management tools. Overall, a wide range of specific fisheries issues are investigated to provide supporting information to support fisheries management decisions.

There are four Great Lakes stations:

- Alpena (opened 1969; current location since 1996)
- Charlevoix (opened 1968)
- Lake St. Clair (opened 1968)
- Marquette (opened 1952)

The primary functions of these Great Lakes research stations are to: investigate, monitor, and assess commercially and recreationally important fish species; conduct and evaluate recreational creel surveys; coordinate tagging programs; conduct studies of native and introduced salmonids; sample for invasive species and fish pathogens; map and evaluate fisheries habitat; and evaluate near-shore fish populations. The stations conduct research and stock assessment on the fish populations of the Michigan waters of the Great Lakes, including connecting waters such as the St. Clair/Detroit River System and the St. Mary's River.

The three remaining research stations are inland-focused facilities and include: Hunt Creek Fisheries Research Station; the Institute for Fisheries Research (IFR); and Saline Fisheries Research Station. Hunt Creek Fisheries Research Station is in Montmorency County and opened in 1939. The research area encompasses 3,000 acres and includes several miles of Hunt Creek, seven tributary streams, and four lakes, all within a one-mile radius of the office. While this station has a long legacy of work that is a foundation for coldwater fisheries management nationally, it is currently not staffed by Fisheries Division. However, the station remains open under a cooperative agreement with Lake Superior State University that will continue the option for collaborative investigations with a broad range of partners. The IFR is a cooperative unit of the DNR and the University of Michigan. Established in 1930 and located in Ann Arbor, the station is focused on providing managers with landscape level analytical tools to address specific management challenges including groundwater withdrawal effects, wind power development in the Great Lakes, introduction of invasive species, and other decision support analyses. In addition, IFR staff investigates how to best improve the populations of aquatic species listed as Species of Greatest Conservation Need (SGCN) and are responsible for the development of recreational angler survey tools and oversight of the lake portion of the statewide inland status and trends program. The Saline Fisheries Research Station, located just south of Ann Arbor, has a unique set of experimental ponds that facilitate specialized research studies and will be used to conduct climate adaptation, freshwater mussel investigations, and invasive species research in the near-term in cooperation with a range of partners that currently include the University of Michigan, Central Michigan University, and the U.S. Geological Survey.

### Vessels

The Great Lakes are ecologically significant on a worldwide scale, as they contain 20 percent of the world's fresh water. Michigan operates the largest state fisheries agency vessel fleet in the Great Lakes, justifiably so as Michigan is jurisdictionally responsible for fisheries management in 43 percent of the waters of the Great Lakes.

Fisheries Division's vessel program is used for the purposes of investigating, monitoring, and evaluating the status of the aquatic habitat and fisheries resources of the Michigan waters of the Great Lakes and connecting waters. The Department manages four vessels, each measuring over fifty feet in length (one for each of the four Great Lakes along the Michigan shoreline) and numerous smaller vessels. The large research vessels by Great Lake, currently valued at approximately \$2.0 million dollars each, include:

- Lake Superior - Research vessel (R/V) *Lake Char* (built 2008)
- Lake Michigan - Survey vessel (S/V) *Steelhead* (built 1967)
- Lake Erie - R/V *Channel Cat* (built 1968)
- Lake Huron - R/V *Tanner* (built 2016)

#### Fish Ladders and Fisheries Operational Facilities

Fisheries Division has operational and maintenance responsibility for ten major fish ladders along with several smaller fish ladders, as well as several warehouses, shops, garages, and storage facilities that are instrumental to the management of the fisheries in the State of Michigan.

#### **Asset Inventory/Assessment**

An inventory is completed annually. The DNR has developed a Facility Management Database for collecting and storing facility assessment and maintenance data. This database allows the DNR to quickly identify facilities with structural and maintenance needs. Capital outlay needs for hatcheries are evaluated and updated annually. Similarly, research vessel and support facility major maintenance schedules are also updated annually.

#### **Recent Capital Project Accomplishments**

The newest Fisheries Division research vessel, the R/V Tanner, was completed and put into service in May 2016. In addition, a FY 2016 budget appropriation included planning authorization for improvements to the Little Manistee Weir (a key facility for the acquisition of eggs and sperm for the Fish Production Program) and the addition of coolwater production and improved steelhead production capacity at Thompson State Fish Hatchery. Construction authorization for this project was approved during 2018. Design work has been completed and construction started in spring 2019. Completion of construction is anticipated in summer 2020.

#### **Capital Project Priorities**

Top priorities for FY 2021 through 2025 include the following:

- Maintain and update facilities to increase the efficiency, safety, and longevity of infrastructure and equipment. (DNR Strategies: Preventative Maintenance, Operational Need, and Energy-Efficient Facilities)

#### Details

The infrastructure maintained by Fisheries Division has a current capital value exceeding \$185 million, including \$139 million in hatchery infrastructure, \$32 million in fishway infrastructure, and over \$8 million in research vessels. With State Building Authority funding to construct facilities comes an obligation to appropriately maintain the facilities. To properly maintain this level of infrastructure and meet present fisheries management requirements necessitates a minimum two percent reinvestment each year in maintenance which provides for a life expectancy of 50 years for these facilities. Funding allocations for maintenance of facilities within Fisheries Division are well below that amount and have been for many years. Thus, the Division has been unable to keep up with the rate of necessary improvements, preventative maintenance, and repairs which has resulted in the need for large capital outlay projects for complete renovation instead of more manageable annual incremental outlays. Additional funding is needed to begin to address the required upkeep for staff health and safety and to maintain the investment in facilities and equipment that would allow facilities to be operated for the full 50-year planned lifespan.

In addition, improvements are needed to reduce energy usage and make state fish hatcheries a leader in the use of green technology. The unit cost of electricity and fossil fuels, particularly

natural gas and diesel fuels, has been on an upward climb and is showing no sign of reversing or leveling off. Five of the six DNR-operated hatcheries were built at least twenty years ago and there have been significant advancements in the energy efficiency of electric motors and motor control technology since that time. Similar advancements have occurred in the water and workspace heating industry. The systemwide replacement of inefficient boilers, conversion to natural gas from cost-volatile propane, improved lighting systems, and replacement of low-efficiency doors and windows would help stabilize heating bills. Three of the six hatcheries underwent energy audits in late FY 2016. The remaining three facilities were audited in FY 2017. The result of the six audits is a list of energy efficiency improvement projects that await funding. Additionally, alternative energy technology has improved in recent years to the point where it is now an attractive option. The department has recently begun a renewable energy initiative that seeks to locate solar panel arrays at each of the six hatcheries. Replacement of inefficient electric motors and heating systems will further establish the department as a leader in green technology.

Wildlife diseases have been at the fore of department discussions in recent years. There are a number of known fish pathogens that can cause catastrophic losses in hatcheries. Since the hatcheries were constructed, much has been learned about pathogen control. Retrofitting them with such technology as ultraviolet filters would not only minimize the chance of catastrophic loss of hatchery fish but would also lessen the chance that hatchery fish may serve as a vector for moving pathogens to waters where they are currently absent.

Similarly, two of the four Fisheries Division research vessels are 50 years old and require regular investment to ensure they efficiently and safely meet the current fisheries management information demands for the Great Lakes. One of these older vessels, the R/V Channel Cat – Lakes St. Clair and Erie, will need electronics modernization, hydraulics improvements, hull maintenance, and the ability to deploy remote operated vehicles to ensure it can fully conduct its fisheries assessment mission. The other older vessel, the S/V Steelhead – Lake Michigan, is at the end of its operational life and should either be replaced with a new vessel at an estimated cost of approximately \$3.0 million or provided with substantial life extension refitting that includes the replacement of the electronics and engine and hydraulics systems, and a full overhaul of the hull and crew quarters at an estimated cost of \$1.7 million. As the newer vessels age, electronic modernization will be needed along with standard maintenance that includes engine and hydraulic tune-ups, and hull inspections and maintenance. The annual cost for these standard maintenance items for the two new vessels is \$100,000. Deferring this maintenance will lead to the degradation of the capacity of the vessel fleet to meet the data needs for DNR fisheries managers, resulting in riskier management decisions that are likely to reduce the annual economic value (exceeding \$1.5 billion) of the Great Lakes fishery to the state.

- Increase the rearing capacity for walleye, muskellunge, and Northern pike by completing the construction of coolwater production facilities at Wolf Lake State Fish Hatchery. (DNR Strategy: Operational Need)

#### Details

Demand for coolwater fish (walleye, muskellunge, and Northern pike) far outpaces current production capacity and is perennially unmet. None of the state's six fish hatcheries were originally designed to rear coolwater species. Thompson, Wolf Lake, and Platte River State Fish Hatcheries have been retrofitted to allow for some level of coolwater production, but the level of production is insufficient to meet demand, even when the facilities are operating at full capacity. A lack of separation between coolwater and coldwater fish production increases the risk of disease transfer and the potential for interruptions in fish production and stocking due to fish health concerns.

Completion of the project at the Thompson State Fish Hatchery is moving the state toward a complete coolwater rearing program. However, the construction of a fully outfitted coolwater fish production facility at the Wolf Lake State Fish Hatchery and the addition of new rearing ponds are

required to complete the system and significantly increase production capacity to fully meet current and likely future demand for coolwater fish. It is estimated these actions would result in an increase of up to 1.1 million walleye spring fingerlings (a 53 percent increase over 2016 production), as well as the ability to produce millions of additional walleye fry. Significant increases in the production of other coolwater species would also be expected, including more than doubling muskellunge production, increasing lake sturgeon rearing, and restarting the Northern pike production program.

- Secure and improve steelhead trout production by completing critical upgrades at the aging Wolf Lake State Fish Hatchery. (DNR Strategy: Preventative Maintenance, Operational Need, and Energy-Efficient Facilities)

#### Details

Currently, the customer demand for the high value steelhead is beyond production capacity of the DNR state fish hatchery system. The nearly 40-year-old electrical distribution system regularly suffers age related failures that must be addressed as emergencies. To meet this need, improvements are needed at the aging Wolf Lake State Fish Hatchery to upgrade critical aquatic life support systems including modernizing the electrical distribution system, replacing failing automated fish feeders, upgrading water supplies, and improving water heating capabilities. Together with the FY 2016 capital outlay project at the Little Manistee Weir and the Thompson State Fish Hatchery, these upgrades would secure and sustain steelhead production well into the future, meeting demand for this species.

- Improve effluent management at five state fish hatcheries to reduce the potential adverse impact of nutrients from hatchery effluent. (DNR Strategies: Preventative Maintenance, Operational Need, and Energy-Efficient Facilities)

#### Details

Effective effluent management is essential to protecting the waters that receive fish production effluent. Changes instituted at Platte River State Fish Hatchery during the 2004 renovation with additional modifications in subsequent years, have proven especially effective with this facility now having some of the lowest phosphorus discharges, given its size and hatchery type, in the U.S. While none of the five other facilities are currently at risk of violating effluent permit limitations, physical changes and structural improvements should be implemented that would limit nutrient discharge even further, reducing potential future state liability in this area. Such changes include the addition of disk or drum filters to remove waste solids as soon as possible in the production cycle; dredging and expansion of settling ponds; the addition of flocculent delivery systems for chemical removal of phosphorus; and the addition of clarifiers or expansion of solids storage facilities.

- Construct and/or renovate Fisheries field buildings in six locations. (DNR Strategies: Operational Need, Preventative Maintenance, and Energy-Efficient Facilities)

#### Details

Fisheries Division needs to replace and/or renovate six field buildings and support facilities that are over 50 years old and in deficient condition: Harrietta Field Building, Lake St. Clair Fisheries Research Station, Charlevoix Fisheries Research Station, Alpena Fisheries Research Station, and the fisheries facilities at the Plainwell and Bay City CSCs. These facilities need modernization of their electrical, plumbing, and data systems; energy efficient improvements including insulation and new doors and windows; fire suppression systems; and additional climate-controlled storage for new automated electronic sensor and measuring systems that will be employed to increase staff efficiency and effectiveness in collecting and analyzing field data. Fisheries Division has been unable to maintain a two percent annual maintenance funding rate. This has resulted in greatly deferred maintenance and improvements needed to enhance staff effectiveness and efficiency and ensure staff health and safety while working in these facilities.

## **Programming Changes**

The Division does not have any current or planned programming changes that are expected to impact its capital outlay needs or approach to managing infrastructure.

## **DAMS AND RESERVOIRS**

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### **General Background**

There are approximately 2,600 dams around the state that are cataloged in a dam safety database managed by the Hydrologic Studies and Dam Safety Unit of EGLE. These dams were built for a range of purposes including power generation, mechanical power for milling, recreation, and water storage. The American Society of Civil Engineers gave Michigan a “C-” in its 2018 Dam Infrastructure report card stating, “About two-thirds of Michigan’s dams have reached their typical 50-year design life. In the next 5 years, this number grows to approximately 80 percent.”

Approximately 75 percent of the state’s dams are in private ownership and a number have significant issues with title ownership, non-payment of property tax, and/or completely absent or unknown owners and therefore could become tax-reverted to the state. Dams require continuous, often expensive maintenance that many owners are either unable or reluctant to provide. The cost of dam repairs or removals can exceed six figure amounts and many owners cannot afford these expenditures. Removing rather than repairing a failing dam that has no social or economic value provides a greater return on investment due to the elimination of perpetual maintenance costs and allows the rehabilitation of lost riverine habitat for fish and wildlife. Representatives of several communities have approached the Department seeking financial and technical assistance to remove dams rather than repair and maintain these facilities.

Dam removal has many economic and environmental advantages. Dams obstruct recreational use of rivers and impede efforts to create fully navigable water trails throughout the state. Dams also block the movement of fish and other aquatic organisms and disrupt the expected transport of wood, sediment, and nutrients, causing changes in stream configuration and aquatic species composition. This leads to increased fish management costs and a greater reliance on DNR fish stocking to compensate for the loss of stream habitat and connectivity. Impounded water behind dams can be less conducive to aquatic organisms because of poor water quality, abnormally high or low water temperatures, and accumulated sediment. Removal of valueless dams improves stream and river habitat for a range of species, which will result in better fishing, hunting, and trapping opportunities. Removing dams that are in poor condition also eliminates the risk to public safety and downstream property posed by uncontrolled catastrophic dam failure.

It is often far less expensive in the long-term to have a dam removed than to deal with perpetual maintenance of a structure that no longer serves a societal or economic function. Often the cost to repair a dam properly is nearly the same as removal, and removal is a permanent solution to the problems with a structure. The return on investment associated with dam removal can exceed 20:1 when considering perpetual maintenance costs over the expected life of a dam. This return on investment is greater yet when the benefits to fish and wildlife habitat and aquatic recreation are considered. However, there are dams that continue to provide economic and societal benefits, where an investment in maintenance and repairs is needed and warranted to extend the longevity of the structures and reduce the risk to public safety.

### **Inventory**

The Hydrologic Studies and Dam Safety Unit of EGLE maintains an inventory of dams located in Michigan that meet specific legal criteria.

## Assessment

The Hydrologic Studies and Dam Safety Unit of EGLE performs ongoing assessments on the condition of dams regulated by Part 315, Dam Safety, of the Natural Resources and Environmental Protection Act, including the state-owned dams managed by the DNR.

## Priorities

The DNR seeks to repair and maintain dams that have natural resources value related to fish rearing operations, fish and wildlife habitat, and recreational camping, fishing, and hunting opportunities; and, to remove obsolete dams and those that pose significant safety hazards.

Securing stable funding for the removal or maintenance of valueless dams and assisting public and private entities in similar efforts continues to be a priority of the Department. Some of the potential consequences of failing to address the state's most vulnerable dams in need of investment include:

- More dam failures, with high liability costs due to personal safety issues, property damage, adverse resource impacts, and environmental clean-up related to the failures.
- Loss of recreational and community resources associated with the impoundment created by a dam, where there is social and economic value to the impoundment.
- Increased costs to stabilize structurally-deficient dams.
- Increased costs for fisheries and wildlife management due to continuing watershed fragmentation from obsolete and valueless dams.
- Decreased property values in areas affected by dam failures.
- Job losses from reduced tourism in areas where significant resource damage occurs from dam failure.

## Recent Accomplishments

There are several processes completed annually to review state-owned dams and determine whether the dams continue to provide value to the residents of Michigan and meet dam safety requirements. Dams meeting the appropriate value criteria are upgraded while those no longer providing value are removed and natural channels restored. Projects are underway to remove dams in historically contaminated river areas, such as the Kalamazoo River Dam and Otsego Dam. These projects involve removal of contaminated sediments, removal of poorly functioning dams and restoration of the rivers to a condition that enhances recreational value. The following are recent projects.

- Stabilization of the Trowbridge Dam in Allegan County to facilitate eventual removal and river restoration
- Completion of an engineering feasibility study and outreach to the City of Allegan regarding the potential removal of their dam
- Removal of the Otsego Township Dam

The Department provides several funding opportunities that allow locally and privately-owned dams to be removed and channels restored. Four of these projects were completed during the last fiscal year. The Department provides technical as well as financial assistance in completing these projects.

- Removal of the Shiatown Dam in Shiawassee County with grant funding to the nonprofit group *Friends of the Shiawassee River*
- Removal of the Sabin Dam in Grand Traverse County with grant funding to the nonprofit group *Conservation Resource Alliance*
- Removal of the Lake Kathleen Dam in Emmet County with grant funding to the nonprofit group *Conservation Resource Alliance*
- Removal of the Heil Road Dam in Gladwin County with grant funding to the Gladwin County Road Commission

## Programming Changes

The DNR began an effort to streamline and standardize the methodology used to review and fund dam projects. A Dam Management Committee was established, consisting of several Department staff members with experience in the evaluation and construction of dams. The Committee developed a manner for ensuring all state-owned dams are evaluated following a standard process and reporting mechanism. An on-line system was developed for tracking the status and condition of dams. This enables priority funding across the Department to ensure dams are maintained to the appropriate standards and dams lacking recreational and habitat value are removed.

## STATE FOREST SYSTEM

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### General Background

At four million acres, Michigan's dedicated state forest system is one of the largest in the nation. The DNR Forest Resources Division (FRD) manages these forests for timber production, wildlife habitat, mineral development, and recreation. FRD completed a revision to its previous strategic plan, which will guide management activities and decision making relative to state forest resources. This revision was completed and published in fall 2019. A copy of the current plan is available on the DNR website and can be accessed via the following link:

[https://www.michigan.gov/documents/dnr/2019StrategicPlan\\_web\\_664890\\_7.pdf](https://www.michigan.gov/documents/dnr/2019StrategicPlan_web_664890_7.pdf)

There are three Regional State Forest Management Plans covering management of the 4 million acres of state forest land. These are available at the following link: <http://www.michigan.gov/regionalforestplans>. These plans will be undergoing revision starting in 2020. Monitoring of the original plans has led to the identification of some needed revisions, largely due to increased accuracy of inventory and a more thorough review of the conditions affecting suitability for management and the condition of the forest as a result of emerald ash borer and other invasive species. Based on these factors, acres prepared for timber sales is expected to decrease; however, overall harvest from the forests may remain steady due to Good Neighbor Authority agreements with the U.S. Forest Service for Michigan's three national forests. Access to both state and private timber resources is important to the state's economy. Michigan's state forests provide a consistent supply of wood to help support and maintain a diverse forest products industry. The forest products industry contributes over \$21 billion annually to Michigan's economy and state forests provide a significant portion of the raw material used by the forest products industry.

Timber harvest also produces important wildlife habitat, which benefits hunting and other outdoor recreational activity. Hunters and other outdoor enthusiasts support wildlife habitat management enhancement through license fees and have a significant impact on local economies, contributing over \$2.3 billion annually. Access to natural resources, including wood products and wildlife species, directly supports quality of life and Michigan's economy.

FRD is also responsible for protection from wildfire and for wildfire suppression on nearly 20 million acres of public and private land. Road access for motorized firefighting equipment is important for the protection of life, property, and natural resources. FRD also takes the lead in conducting prescribed burns on DNR-managed land, averaging 90 prescribed burns on 8,400 acres annually. These burns benefit wildlife habitat, assist in the control of invasive species, and reduce woody material in preparation for planting trees.

Management of the state forest system includes responsibility for significant infrastructure such as forest roads and bridges, staff offices, connectivity, garages, and storage facilities. Due to past limited funding and aging infrastructure, there are many forest roads and facilities in need of maintenance, repair, or replacement.

## **Facilities Inventory/Assessment**

The DNR manages many forestry-related buildings that are used to house staff as well as provide access to the public for information, permits, and timber sale contracts. A DNR-wide initiative was completed in 2013 that collected in-depth information on buildings. The facility inventory was updated in spring 2016 with the assessment of all FRD structures. The collection of this data allows the DNR to make informed decisions for providing safe and functional facilities for staff and the visiting public.

Based on available funding, critical repairs are made annually to ensure employee and public safety, as well as to limit further structural decline. Recent capital outlay investments have begun to address some of the deferred repairs and maintenance, but ongoing investment is needed. The most significant facility issues have been identified and a five-year plan has been developed to address them.

## **Roads and Bridges Inventory/Assessment**

There are roughly 13,000 miles of DNR state forest roads that require administration and maintenance. The FRD Strategic Plan identified the need for a better inventory of the state forest road system under FRD jurisdiction. Public Act 288 of 2016 mandated a classification system and road inventory be completed by the end of 2017 for Northern Lower Peninsula (NLP) roads and by the end of 2018 for Upper Peninsula (UP) and southern Lower Peninsula (SLP) roads. The initial inventory is now complete statewide, and FRD has begun a comprehensive assessment of associated infrastructure, such as bridges and culverts. A contract awarded in fall 2019 will pilot this assessment in the Western UP, with the intent of expanding the assessment in 2020 to cover the remainder of the state forest road system.

The thousands of miles of forest roads located on state forest land are used not only to provide access for timber harvest and wildlife habitat improvement, but also for mining, oil and gas extraction, fire suppression, water access, recreational uses, emergency services, and local traffic. Adverse issues with roads and bridges, particularly environmental issues such as sedimentation or run-off, are reported and placed in a Resource Damage Report (RDR) database. The repair needs include road and bridge work, as well as recreational trail maintenance projects.

Presently, FRD is responsible for over 200 bridges, many of which are located on recreational trails managed by DNR Parks and Recreation Division (PRD). Approximately 21 percent of these bridges have been inventoried to date, with the condition documented by consulting engineers. There are thousands of culverts on the road system, many of which need upgrading or replacement to ensure good passage of fish, to prevent sedimentation from entering streams, and to maintain the integrity of the road.

## **Recent Accomplishments**

To better coordinate capital outlay needs, FRD is nearing the completion of a database to track project requests, approvals, progress, and completion. In FY 2019, nearly \$2.2 million was spent or encumbered on capital outlay projects. More than \$1 million was spent on road, bridge, or culvert repair or replacement, with the remaining \$1.2 million spent on facility improvements. Over 50 percent of the completed projects tracked in the database involved new furnaces, windows, doors, and energy efficient lighting. Additional projects are in various phases of progress including design and construction for higher-value projects, such as bridges.

## **Priorities**

Where possible, FRD seeks to consolidate space with staff from other DNR divisions and other state agencies. Major repairs and renovations of field offices throughout the state are priorities to provide a safe working environment to support the DNR's mission. Having adequate structures in place protects employees, lengthens the lifespan of equipment, promotes public safety, and facilitates public access to DNR staff. The physical location of offices is also reviewed. For example, for the Sault St. Marie Office, a new building was constructed in a location more efficient for operations and yet accessible to the public. This replaced an outdated, insufficient building that was located on a road that made it difficult for rapid fire response. Currently under consideration is a state-of-the-art mass timber building in Newberry. This new building would consolidate staff and office locations and replace other deteriorated and out-of-

date facilities and/or leases. It would include many energy efficient and/or green features, as well as showcase the latest developments in Cross Laminated Timber (CLT) construction.

Other priorities include providing access to state forests and road infrastructure that is safe and appropriate. Most of the state forest roads and associated infrastructure (bridges and culverts) need some type of repair or replacement. Recent capital investments have focused on addressing public safety issues and situations where major environmental damage is occurring. Examples include a road washing out or a bridge becoming weight-restricted due to age and deterioration making it unable to support emergency, utility, or logging vehicles. Providing right-sized structures and adequately maintaining roads helps limit the amount of sediment entering waterways, which is significant for fisheries habitat and water quality. It also provides access for logging and mining operations, especially where bridges or significant road improvements are needed. Ongoing maintenance and repair of state forest roads and bridges is important for meeting forest certification standards. Forest certification strengthens Michigan's forest products sector and is essential for primary wood producers in Michigan to have continued access to national and international markets. There are nearly 700 reported instances of erosion issues and/or inadequate road infrastructure with an estimated repair cost of almost \$7 million statewide.

Maintaining the transportation and infrastructure systems in the state forest provides improved and easier access for firefighters, hunters, anglers, campers, and trail users. In some instances, it facilitates access to private property and infrastructure that is inaccessible by other means. It conserves resources and provides habitat for various fish and wildlife species. It also provides access to wildlife populations and fosters increased participation in hunting, fishing, camping, and other recreational opportunities. Improved access to revenue generating natural resources also supports natural resource management and extraction activities (e.g., harvest of timber, extraction of oil and gas), which provide a critical boost to the state's economy. An important step in maintaining this transportation system is the creation of a thorough inventory of culverts and bridges and identification of location, condition, and priority for replacing unsafe or deteriorated infrastructure. This inventory is underway and is expected to identify additional maintenance, repair, and investment needs. Frequently professional engineering services are required to adequately appraise the condition of bridges and critical culverts and provide subsequent design and replacement of these structures. Adequate ongoing funding is needed to continue repairs and improvements to the state forest transportation system.

The purchase and use of temporary bridges and crane mats (which facilitate passage across wet areas) has proved invaluable for accessing state forests for timber harvesting, reforestation, wildlife habitat management, and environmental protection. This also provides a temporary solution for access until a permanent structure can be built for roads that need longtime access to public land. The demand for both portable bridges and mats outpaces the supply and because they are deployed and reused multiple times, the useful life may be shortened resulting in the need to acquire more.

Securing funding for much needed capital investment is a top priority. Presently, the Forest Development Fund (FDF), which is comprised of timber harvest revenue from DNR lands, is the primary source of funding for most state forest activities, including wildfire suppression, road and bridge maintenance, and timber management. Access to state forest lands is critical for these functions as well as for providing access to recreational opportunities and mineral extraction. In FY 2016, 2017, and 2018, timber revenue was above average, providing an opportunity to fund priority capital outlay projects and invest in the infrastructure that provides access to state forest users for many purposes.

## **Programming Changes**

FRD plans to continue to develop and refine the capital outlay database. Twenty-nine demolition projects, primarily for existing structures on state land acquisitions, were offered for bid in 2019 but were not awarded due to cost. These will be repackaged and rebid in FY 2020. There are 12 additional bridge replacement projects estimated at \$2.5 million that are currently in the design phase with bid solicitations scheduled in 2020 and completion expected in 2021. Capital outlay expenditures on facilities continue to focus on green energy projects, such as furnace and insulation replacements and electrical upgrades. The road and bridge infrastructure assessment will be completed in 2020 and this is

expected to identify additional priority capital outlay projects to protect and upgrade the state forest road system.

## **MINERALS MANAGEMENT**

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### **General Background**

The DNR manages over 6 million acres of mineral estate through its Minerals Management program. The Office of Minerals Management (OMM) supports the state's natural resource-based economy by overseeing the leasing and lease compliance for oil, gas, and mineral resources, as well as for underground natural gas storage rights. OMM also administers the state's mineral rights reunification program, which allows surface owners to apply for the purchase of the state-owned severed mineral rights beneath their property. As of the close of FY 2019, OMM oversees the administration of approximately 776,000 acres of leased mineral rights under nearly 6,900 active leases.

Revenue received from programs administered by OMM is distributed to various funds based on how the mineral rights were acquired. The State Parks Endowment Fund is the largest beneficiary of this revenue, receiving approximately 90 percent. Oil, gas, and mineral royalty revenue is also distributed to the Game and Fish Protection Trust Fund, and an amount less than one percent is distributed to the General Fund for the leasing of natural gas storage rights.

### **Oil and Gas**

Prior to 2015, nearly all the mineral royalty revenue received from the leasing of state-owned minerals came from oil and natural gas extraction. A revenue shift occurred in FY 2015 when the oil and natural gas revenue as a percentage of the total royalty revenue decreased by 12 percent. In FY 2016, this percentage decreased an additional 20 percent. This shift occurred because of a downturn in the oil and gas industry coupled with the addition of a new metallic mineral mine in the Upper Peninsula. It is anticipated that a similar adjustment of revenue sources will continue over the next five years.

In FY 2017, an uptick in oil and gas leasing activity as compared to the prior two years occurred and was a direct result of a newly discovered oil play in Gladwin County. Innovative non-intrusive exploration methods, such as 3-D geophysical surveys, of state-owned minerals are being pursued by industry experts in cooperation with the DNR. In FY 2018 there was an increase in drilling and permitting due to increases in the market price of both oil and gas. Revenue has remained relatively flat in the last few years.

### **Natural Gas Storage**

Storage of natural gas in Michigan occurs primarily in depleted oil producing fields. All these storage fields are in the Lower Peninsula. Unlike producing fields, gas storage fields are designed so the entire natural gas capacity can be cycled in and out of the field each year. The geologic structures that make up Michigan's storage fields have a high porosity and are mainly associated with subsurface ancient reefs and pinnacles, making them among the best suited geologic structures for natural gas storage in North America. It is estimated that nearly 690 billion cubic feet (19.5 billion cubic meters) of working gas capacity, some of which is beneath DNR-managed surface, exists in Michigan, which is more storage than in any other state. Of this capacity, approximately 145 million cubic feet is leased through the OMM.

### **Metallic Mining**

In FY 2015, the first active new metallic mine began production on state-owned land. In addition, there is one proposed gold mine on state land.

Copper and nickel are the primary products produced at the metallic mine. However, there are indications that other products such as palladium, platinum, cobalt, gold, and silver are being produced at this metallic mine. The royalties will vary depending on the type of product, amount produced, and the value of the product at the time of sale.

Other mining interests hold state leases for metallic mines or are in the process of acquiring leases. Activity for these sites is either speculative, or in the exploratory or pre-mining stage of development.

## **Non-Metallic Mining**

There are multiple active non-metallic mining operations on or beneath state-managed public land. These mining operations include the extraction of sand, gravel, limestone, dolomite, and salt.

In 2015, the DNR negotiated the completion of a transaction with Graymont (MI), LLC (Graymont). This transaction included an exchange and sale of nearly 10,000 acres of land in Michigan's Upper Peninsula. Graymont determined that high calcium limestone exists beneath the surface of this land. Limestone of this quality has multiple uses and is an important component in the manufacturing of concrete. In 2016, Graymont began limited production of this deposit.

Given Michigan's vast mineral resources, other projects like the Graymont transaction are likely. A general understanding of the mineral potential of public land managed by the DNR is needed.

## **Recent Accomplishments**

In FY 2019, OMM issued 93 new leases covering nearly 7,500 acres: eight metallic leases covering just over 1,300 acres, two nonmetallic leases covering 80 acres, and 83 oil and gas leases covering approximately 6,100 acres.

OMM continues to prioritize lease compliance activities. Compliance staff has been working with lessees, operators, FRD, and EGLE to ensure that lease terms are satisfied and that cleanup efforts are completed satisfactorily.

## **ENVIRONMENTAL STEWARDSHIP OF MINERAL LEASE SITES**

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### **General Background**

The OMM, in addition to managing leasing and revenue generated from mineral resources on 4.2 million acres owned in fee simple, also manages these activities for 2.3 million acres of severed mineral rights. The DNR is empowered, in its role as caretaker of this public land and through leasing and granting of easements, to ensure the highest level of environmental stewardship of this public trust land.

In FY 2018, the OMM hired three full time employees assigned to oversee the environmental stewardship provisions contained within approximately 7,300 leases for oil, gas, and mineral extraction on DNR-managed public land. Active extraction is occurring under nearly half of the 7,300 leases. These leased sites must be reviewed to ensure compliance with the stewardship provisions of their respective leases. Since the mineral resources on many of these leased sites are nearing depletion, lessees will begin to vacate properties or petition for termination of their leases. Without a formal review of the leased parcels, the state risks inattention to environmental stewardship issues, including pipeline abandonment, site restoration, and lease compliance on DNR-managed public land.

### **Inventory/Assessment**

Mineral resources on many DNR lease sites are depleted or are nearing the end of their economic viability for continued extraction. As such, the plugging and abandonment of oil and gas wells, pipeline abandonment, reclamation of these sites as well as non-metallic extraction sites, and requests for termination of leases is rising. Failure to monitor compliance with lease provisions as a component of lease terminations creates an unacceptable economic risk to the state and potentially places the public use of state land at risk. Lessees need to be held accountable for their actions under the conditions of their respective leases and financial instruments prior to lease termination as well as on an ongoing basis.

### **Priorities**

The following priorities stem from the DNR's commitment to protecting natural resources as well as from increasing public concern regarding environmental stewardship and public safety:

- Compliance with lease conditions
- The safety and integrity of supply and feeder pipelines crossing public land from wellhead to processor
- The reclamation of mineral extraction sites

To promote the safety of staff and individuals connected with natural resource-based industries (timber contractors and recreational public land users), the DNR will make compliance activities a priority with the goal of ensuring that potential legacy issues related to the termination of these leases is borne by the lessee and not by the State of Michigan.

### **Programming Changes**

OMM does not have any current or planned programming changes. While revenue will fluctuate with the rise and fall of market prices, significant decreases in revenue are not expected.

## **STATE GAME AND WILDLIFE AREAS**

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### **General Background**

As part of the DNR, the Wildlife Division's mission is to enhance, restore, and conserve the state's wildlife resources, natural communities, and ecosystems for the benefit of Michigan's citizens, visitors, and future generations. Critical to that mission is the protection, restoration, and maintenance of wildlife habitat and user facilities on the state's 100 plus game and wildlife areas consisting of more than 350,000 acres. Annual routine and non-routine maintenance is required to keep DNR-managed areas operational and open for public recreational and educational use. Wildlife Division also has primary management responsibility for certain focus areas within the state forest system, including wildlife flooding, sensitive wetlands, and important deer yards. These areas collectively comprise more than 100,000 additional acres.

Most of Michigan's wildlife areas are in the southern half of the Lower Peninsula where over eighty percent of the state's population resides. Less than ten percent of the public hunting land available in the state is in southern Michigan, yet a large percentage of hunting occurs on this publicly owned land. Based on current land use trends on privately-owned land, this acreage will become increasingly important to both wildlife and outdoor enthusiasts.

Wildlife-related recreation is an integral part of Michigan's recreation and tourist industry. A [recent study](#) was commissioned by the Michigan United Conservation Clubs (MUCC) in partnership with the Michigan State University Eli Broad College of Business and with funding support from the C.S. Mott Foundation. The MUCC report is believed to be the most comprehensive effort to date measuring the annual stateside economic impact by Michigan's 700,000 hunters and 1.1 million anglers. The study shows that \$8.9 billion from hunting and \$2.3 billion from fishing stems from purchasing gear and clothing, booking hotel rooms, buying meals and more. For every \$1 million spent on hunting and fishing related purchases in Michigan, 19.61 jobs are created for state residents.

In addition, according to a [Congressional Sportsmen's Foundation study](#), hunters spent approximately \$2.3 billion in Michigan on trip-related expenses and equipment in 2011. In addition, wildlife viewing activities contribute another \$1.2 billion annually to the state's economy.

The public benefits of these recreational activities are immeasurable. Presently, state game areas provide habitat for numerous wildlife species that can be hunted, such as waterfowl, wild turkeys, and deer. They also provide important habitat for non-hunted wildlife, such as songbirds, raptors, shore birds, and small mammals.

## Inventory/Assessment

- Current Distribution of Public Hunting Land and Michigan Population by Region.

Region	Percent of Public Hunting Land	Percent of Population	Acres Per Person
UP	64	3	20.09
NLP	30	8	3.77
SLP	6	89	0.07

UP = Upper Peninsula; NLP = Northern Lower Peninsula; SLP = Southern Lower Peninsula

- 110 Formally Dedicated Wildlife Division Land Types.
  - 94 State Game Areas (SGAs) - Project areas that are administered and managed by the Wildlife Division.
  - 12 State Wildlife Areas (SWAs) - Like SGAs, these areas are administered and managed by the Wildlife Division. The difference results from the dedication process. These areas were created legislatively or through some other dedication process where the decision makers decided to use this terminology as opposed to the more common SGA. Unlike SGAs, the naming of these areas occurred outside of the Wildlife Division; consequently, the Wildlife Division does not have sole authority to adjust these names for consistency.
  - 1 State Fish & Wildlife Area (SFWA) – This is a joint project with Fisheries Division to manage the acreage for wildlife and sport fish purposes. Augusta Creek SFWA is the only project of this type. Fisheries Division contributed federal Dingell-Johnson funds for this project to protect water quality in Augusta Creek, a trout stream. Wildlife Division administers and manages this area by maintaining a wooded corridor along the stream to maintain cooler water temperatures and to reduce siltation in the stream. The rest of the area is managed as a SGA. This project area is administered and managed by the Wildlife Division.
  - 3 State Wildlife Research Areas (SWRA) - Like SGAs, these areas were originally designed for conducting applied wildlife research by the Wildlife Division. With less research conducted by the Wildlife Division, the areas are functionally managed as SGAs.
- All land holdings are recorded in the Department's land database. An assessment of the condition of support buildings and other infrastructure within State Game and Wildlife Areas is ongoing. Roads and bridges have not been scheduled for assessment due to a lack of available funding.
- A complete list of [State Wildlife/Game Areas](#) may be accessed via the DNR's public website

## Recent Accomplishments

During FY 2019, the Division completed major infrastructure projects, including the following highlights:

- Kawkawlin dam repair (on-going issue since 2013 breach)
- Shiawassee Managed Waterfowl Area B2 Pump Station replacement
- Crow Island Birding Observation Platform construction
- Shiawassee Managed Waterfowl Area new pedestrian bridge for access to the northern part of the area
- Sharonville State Game Area culvert replacement
- Stanton State Game Area trail repair
- Portage Marsh parking lot repair
- Reedsburg Dam evaluation for future upgrades and repairs to prevent catastrophic failure

## Priorities

The land acquisition and infrastructure maintenance priorities outlined in this section are based on [Wildlife Division's strategic plan – The GPS \(Guiding Principles and Strategies\)](#), as well as the [Department's Public Land Management Plan](#).

The statewide focus is on recreational opportunity and the renovations and repairs needed to maintain facilities and keep infrastructure in a safe and operable condition. The priorities mirror the higher-level priorities and metrics of the GPS, specifically:

**Goal 2: Manage habitat for sustainable wildlife populations and wildlife-based recreation.**

- Objective 2.1: Develop and revise management plans and guidance for priority habitats.
- Objective 2.2: Implement and assist others with habitat management for priority species and habitats.
- Objective 2.3: Conduct research, monitoring, and assessments to improve management of wildlife habitat.
- Objective 2.4: Maintain public access and habitat infrastructure for wildlife management purposes.

**Goal 3: Administer and promote effective stewardship of lands for wildlife habitats and wildlife-based recreation.**

- Objective 3.1: Protect Department-owned or administered lands and infrastructure acquired and managed for wildlife purposes from uses that interfere with wildlife management.
- Objective 3.2: Align land portfolio with Department and Wildlife Division priorities and goals.
- Objective 3.3: Develop and implement a strategy to assist local and regional decision makers to incorporate wildlife needs and wildlife-based recreation into land use planning, policymaking, and legislation.

**Wildlife Division Acquisition Priorities**

- **Michigan Pheasant Restoration Initiative** – This initiative is a partnership with Pheasants Forever, Michigan United Conservation Clubs, U.S. Fish & Wildlife Service, MDARD, local conservation districts, and other conservation organizations to facilitate a revitalization of Michigan pheasants. The focus is on working with coalitions of private landowners to restore pheasant habitat on fifteen to thirty percent of the landscape within Pheasant Recovery Areas. Targeted acquisitions for the purpose of protecting and maintaining pheasant habitat are a priority.
- **Michigan Waterfowl Legacy Initiative (MWL)** – This initiative is a ten-year cooperative partnership to restore, conserve, and celebrate Michigan's waterfowl, wetlands, and waterfowl hunting community. MWL is for waterfowlers, other hunters, and the general public. The DNR is focused on acquiring key wetlands for the benefit of wildlife species that thrive in those environments and to open additional wetlands to the public for hunting and outdoor recreational activities. In addition, it is important that the DNR address aging pumps and related infrastructure that is inadequate and can no longer function at the levels needed to keep existing wetland areas in optimal condition. In some cases, the existing infrastructure is no longer used as designed, and replacement with simpler structures would improve efficiency and address needs. Without the restoration or removal of failing infrastructure, these managed wetlands will decline in quality, resulting in fewer species using the habitat. This will lead to fewer days afield for hunters and wildlife viewers, negatively impacting license sales and tourism activity.
- **Increased hunting access in southern Michigan** – Acquisitions to expand public access are a priority, particularly in areas with low per capita public hunting acreage and cold spots without hunting access.

**Wildlife Division Regional Land Acquisition Priorities**

- **Upper Peninsula** – Winter deer habitat, sharp-tailed grouse habitat in Chippewa/East Mackinac Counties, Great Lakes shoreline (piping plovers and other species), rare communities and rare species habitat.
- **Northern Lower Peninsula** – Elk range acquisition, consolidation of Wildlife Division-administered land.

- **Southern Lower Peninsula** – Michigan Pheasant Restoration Initiative, Michigan Waterfowl Legacy Initiative, consolidation within project boundaries – especially providing road access, providing access within fifteen miles of residents, and contiguous forests.

## **Wildlife Division Infrastructure Maintenance and New Construction Priorities**

- **Buildings** – Maintenance, improvement, or construction of facilities (e.g., headquarter buildings, storage structures, outbuildings, fencing, and animal holding facilities within game and wildlife areas).
- **Parking Lots** – Maintenance, improvement, or construction of parking lots for existing game and wildlife areas, as well as landscaping, refuse removal, and renovations to accommodate users with disabilities; Existing parking lots are typically located near established roads, accommodate four to 35 vehicles, and have a compacted gravel surface.
- **Roads and Trails** – Maintenance, improvement, or construction of existing game and wildlife area roads and trails. This includes associated landscaping and compaction of materials to accommodate users with disabilities.
- **Signs** – Routine and non-routine posting and updating of game and wildlife area boundary and information signs. This includes posting on newly purchased properties, conversion of old sign types, posting of informational signs for special habitat projects, and identification of facilities for users with disabilities. Wildlife Division adheres to the general guidelines for the graphic reproduction of the Federal Aid in Wildlife Restoration symbols.
- **Bridges** – Maintenance, improvement, or construction of bridges to keep existing bridges safe and fully functional.
- **Wildlife Structures** – Maintenance, improvement, or construction of nest boxes, denning structures, nesting platforms, and other artificial structures that benefit a variety of wildlife species.
- **Impoundments** – Maintenance, improvement, or construction of impoundments, including weirs, dikes, ditches, water supply channels, tubes, gates, pumps, and dams. Maintenance activities include associated mowing, vegetation control, tree and brush control, replacement of gravel and fill material, riprap, and fencing. Associated structures include gauging stations, barriers, bridges/crossings, docks, boat rollers, and launch sites. Existing impoundments can be as large as 800 acres. However, most of the impoundments are between two and twenty acres in size.
- **Equipment** – Repair or replacement of heavy equipment used statewide. This includes bulldozers, skidders, choppers, hydromowers, hydromulchers, excavators, backhoes, draglines, trailers, dump trucks, stakerack trucks, pickups, portable pumps, farm tractors, farm equipment, and snowmobiles. Wildlife Division is required to maintain its equipment to ensure it is safe and in operating condition.
- **Refuse Removal** – Major and unexpected clearing of unusual materials resulting from the illegal dumping of unknown materials and chemicals on state wildlife areas that may require hazardous waste handling procedures.

## **Programming Changes**

There are no significant programming changes expected to impact the Department's capital outlay needs or approach to managing State Game and Wildlife Area infrastructure.

## **STATE PARKS SYSTEM**

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### **General Background**

The Michigan State Parks System, administered by Parks and Recreation Division (PRD), includes 72 state parks, 23 state recreation areas, 3 state scenic sites, 3 historic state parks, 5 state park linear trails, and 140 state forest campgrounds. These facilities (246 in total) are dispersed statewide, with approximately one-third located in urban areas. In addition, there are 13,311 miles of designated motorized and non-motorized trails.

This system serves as the backbone of Michigan's \$23 billion tourism industry. These lands and facilities offer unique public outdoor recreation opportunities and contain significant natural and cultural resources needing protection. The Department continues to focus on maintaining and improving the state parks facility infrastructure, in conjunction with community and private partnerships, to support program operations and land stewardship needs. Priorities for current and upcoming capital improvement projects continue to focus on public health, safety, and welfare issues. Sustainable development is incorporated into all current and future development projects and facility management efforts, along with green technology, energy efficiency, and barrier-free/accessible design considerations.

In 2018, approximately 26.5 million state park visitors enjoyed the abundant natural and cultural resources celebrated throughout the Michigan State Parks System. Unfortunately, much of the infrastructure, developed in previous decades through general fund tax revenue to support these visitors, is greatly in need of substantial repair or replacement. The Michigan State Parks System will require significant reinvestment to continue to be responsive to customers' needs and reflect current recreational trends appropriate to a state system. Individual parks and/or recreation areas can host between a few thousand to over 30,000 visitors daily and are comparable to a small city, with roads, lodging, water treatment facilities, water distribution lines, sewage treatment systems, electrical systems, playgrounds, etc.

PRD has identified and documented the need for 558 priority renovation and upgrade projects, estimated at a cost of \$278 million within the Michigan State Parks System (this figure does not include State Waterways, Belle Isle Park, or trailway system needs). In addition, PRD has identified the need for over \$550,000 for six renovation and upgrade projects at the Ralph A. MacMullan Conference Center. The amount of annual funding available to support basic infrastructure needs continues to fall far short to adequately address the backlog of maintenance, repair, and improvement projects. The infrastructure reinvestment strategy is adjusted each year to align funding with the most critical needs.

Michigan's comprehensive state parks and recreation system infrastructure has a total asset replacement value of more than \$1 billion. Replacing facilities by the end of their life cycle needs to be a planned function rather than an emergency reaction to infrastructure failure.

Some of the larger infrastructure projects needed for the state parks and recreation areas are critical to customer service and revenue generation but are significant in cost. In many cases, the infrastructure projects are needed to provide barrier-free and Americans with Disabilities Act (ADA) compliant accessibility. Additionally, there are critical water and sewer systems that require upgrades to ensure compliance with health and environmental standards. On average, these below-ground utilities were constructed 40 to 50 years ago. These infrastructure projects are necessary to support the needs of state parks and recreation area visitors, who contribute a significant share of the system's annual revenue.

The Department continues to explore additional possibilities for partnership and alternative capital improvement funding sources to accelerate needed capital improvements throughout the state parks and recreation areas.

## **Inventory**

Above-ground structures, roads, dams, internal trails, and linear trails were last inventoried in 2006. Updates to the inventory, and additions to the system since 2006 (e.g., state forest campgrounds, trails, new facilities, and Belle Isle Park), are scheduled to be inventoried and assessed for condition.

PRD has been actively pursuing inventory alternatives and costs, including needs for incorporating and accessing the data through an efficient asset management system. Since 2017, the DNR has participated in the development of an enterprise asset management system in collaboration with DTMB and MDOT. This system will establish enterprise-wide standards for tracking and recording assets, including costs associated with maintaining and replacing these assets, and it will streamline reporting efforts across the state. As part of this effort, all PRD inventories will be integrated, and current PRD processes will be streamlined, including work and project requests and approvals, identification and

prioritization of improvement needs, and the completion of inventory audits and inspections. Updated PRD inventories are to be integrated into the future enterprise asset management and operations system with goals to:

- Protect public health and safety of visitors and staff
- Ensure assets are reliable and meet the desired level of service for all users
- Maximize and enhance the long-term utilization and economic life of assets
- Reduce use of non-renewable energy
- Protect and enhance the natural environment
- Meet or exceed regulatory requirements

As a general summary, current inventoried infrastructure within the Michigan State Parks System (including Belle Isle Park) includes:

- 1,544 buildings
- 523 miles of roads (305 of which are paved)
- 13,311 miles of trails
- 12,223 improved campsites
- 3,897 primitive campsites
- 121 electrical system components (includes distribution and controls)
- 104 sewer system components (includes distribution, controls, treatment systems, and sanitation stations)
- 44 water system components (includes distribution and controls)

In addition to creating an inventory of physical infrastructure, PRD has engaged thousands of park visitors (through staff and volunteer campground hosts) to gather public perspective on facility conditions and improvements and to identify future recreational opportunities. PRD's focus on community engagement efforts is increasingly embedded into interactions with stakeholders and communities.

## **Assessments**

One of PRD's primary strategic efforts is to implement management practices to assess and sustain facilities. This goal addresses the need for a sustainable parks and recreation system where the scale and size of the associated facilities reflect available capital improvement funding. Historically, much of the Michigan State Parks System was developed with General Fund tax support. During the 1970s, this support accounted for 70 percent of the system's funding. Today, the system's operating and capital improvement needs are largely funded from restricted revenue sources.

## **Recent Accomplishments and Ongoing Initiatives**

Each FY, PRD initiates a "call for projects" to collect and prioritize the needs of the entire state parks and recreation system, identify emerging health and safety concerns, and align projects for potential funding and programming design. This review allows staff the opportunity to update, assess, and quantify needs. Collectively, these concurrent processes provide short and long-term planning strategies based on varying levels of funding, resulting in a capital improvements plan. Each year this plan proposes project funding relative to the anticipated availability of fiscal resources and outlines a schedule of public expenditures. It does not address all the capital expenditures but provides for priority operational and recreational improvements that are needed for the function of the statewide network of facilities, including those that address vehicular and pedestrian circulation, utilities, and buildings.

This capital improvements plan provides a methodology for turning these needs into projects by outlining anticipated funding sources and schedules for study, design, and construction, based on the priority of the need and the availability of funding resources to complete the projects. PRD has been able to reduce the State Parks system infrastructure backlog, through planned approaches to redevelopment, sustainable contraction efforts, leveraging state park monies through grants and partnerships, and ongoing re-evaluation of priority needs.

## Priorities

The master comprehensive capital improvement list for priority project funding is maintained and updated annually. Projects are chosen for funding based on the current highest need as determined by PRD's executive leadership (Division Chief and Section Chiefs). To ensure overall statewide priorities are effectively addressed, the following criteria are used to evaluate projects:

- Is a critical need in imminent danger of failure
- Resolves compliance issues (health/safety/welfare)
- Directly serves the public and enhances the visitor experience
- Responds to core infrastructure needs (utilities, buildings, roads, etc.)
- Responds to high profile issues, needs, and local concerns
- Has committed partners and associated funding
- Enhances the ability to generate and sustain revenue
- Improves overall operational efficiency
- Improves employee efficiencies

The following information provides an overview of the most basic priority project needs of the Michigan State Parks System (exclusive of Belle Isle) as of July 2019. These lists are not all-inclusive and do not include annual routine maintenance and repair cost needs, but rather focus on the primary support infrastructure that sustains the state parks and recreation system as it is today.

Primary infrastructure needs include:

### Buildings

- Replacement, repair, and demolition of existing structures (e.g., toilet/shower buildings, headquarters, field offices, cabins, garages, visitor centers, registration buildings, contact stations and beach/bath houses, etc.)
- Approximately 138 projects identified at an estimated cost of \$67.7 million

### Utilities

- Replacement, repair, and necessary modifications to meet health and safety requirements for utility systems (e.g., water, sanitary, electrical, storm water, gas and communications, etc.)
- Approximately 89 projects identified at an estimated cost of nearly \$51.2 million

### Roads and Parking Areas

- Preventative maintenance, repair, and replacement projects to address internal roads according to conditional assessments
- Approximately 77 projects identified at an estimated cost of \$69.7 million

### Recreational Structures

- Replacement, repair, and modifications to boardwalks, observation decks, fishing piers, floating platforms, playgrounds, and field/court areas
- Approximately 132 projects identified at an estimated cost of \$33.2 million

### Operational Structures

- Replacement, repair, maintenance, and modifications of bridges, dams, and other operational features
- Approximately 37 projects identified at an estimated cost of \$9.9 million

### Major Development

- Complex and extensive development and modernization projects typically requiring a phased approach over several years; examples include addressing multiple failing utility, road, and building systems that are inadequate to accommodate current and future visitors
- Approximately 34 projects identified at an estimated cost of \$30.5 million

### Historical Structures

- Replacement, repair, and accessibility modifications of designated historical structures and amenities
- Approximately 46 projects identified at an estimated cost of \$14.6 million

### Habitat Restoration

- Invasive species control, natural resource protection, and the restoration of critical or damaged habitats
- Approximately 5 projects identified at an estimated cost of \$1.1 million

### Ralph A. MacMullan Conference Center

- Renovation and expansion of the kitchen and dining areas at an estimated cost of \$450,000
- Finishing of storage areas in the Au Sable building at an estimated cost of \$2,000
- Signage upgrades throughout the property at an estimated cost of \$20,000
- Enhancement to the beach area at an estimated cost of \$10,000
- Upgrading bathrooms in the Resource Center at an estimated cost of \$50,000
- Construction of a new laundry facility at an estimated cost of \$25,000

### **Programming Changes**

The primary funding sources which are available and used to support state park and recreation area operations, maintenance, and capital improvements are:

- Recreation Passport Fees Fund – Receives a percentage of revenue from the sale of Recreation Passports.
- Park Improvement Fund – Receives all revenue derived from camping fees, concession fees, leases, gifts and donations, as well as a percentage of the revenue from Recreation Passport sales. The fund was established by 1994 PA 451, Part 741, Sec. 74108 and is constitutionally protected (Article IX, Section 40).
- Parks Endowment Fund – When the accumulated principal balance of the Michigan Natural Resources Trust Fund (MNRTF) reached \$500 million in May 2011, this fund began receiving revenue derived from royalties on the sale and lease of state-owned oil, gas, and mineral rights and associated interest and earnings. The fund was established with the passage of Proposal P in November 1994, is designated in statute by PA 451, Part 741, Sec. 74119, and is constitutionally protected (Article IX, Section 35a).
- New Funding Considerations – To accelerate progress toward accomplishing the long list of capital outlay needs, PRD continues to explore the use of partnerships and alternate funding sources, including State General Fund.

PRD will continue to focus on the sustainable contraction of park infrastructure to have a system that is viable and self-sufficient, based upon projected revenue and the anticipated levels of available funding for capital improvements. The diversification of recreational facilities beyond the typical hunting, fishing, and camping experiences, and expansion to meet emerging recreational trends will continue to be a focus in recreational capital improvements.

Based on current and projected funding, the DNR cannot redevelop state park and recreation area infrastructure to the same level and standards at all locations. A strategic approach to capital improvements is needed for system-wide reinvestment. Facilities that have the demand and capacity could expand certain aspects to increase revenue streams (camping, rental structures, day use, etc.), while other locations could reinvent and reduce infrastructure to more appropriately balance visitation (occupancy), staffing levels, and long-term maintenance.

Ultimately, a multi-pronged investment strategy is vital, regardless of the amount of available funding. This investment strategy is critical to the long-term sustainability of the state parks and recreation system. A strategic vision is important to purposefully align funding with the renovation, replacement, and reduction of infrastructure to match current recreational needs and emerging trends, while addressing the overlying goal to target and focus efforts to engage people in the out-of-doors, creating life-long memories.

## **STATE TRAILS SYSTEM**

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### **General Background**

The DNR is responsible for the oversight and management of 13,311 miles of state-designated trails. The state trail system is comprised of trails that are owned, managed, maintained, or significantly funded by the DNR. The trails program has grown significantly over the past decade due to the rise in popularity and the expanding demand for recreational trails in Michigan. This inviting network – and the associated quality of life, health and economic benefits it offers – is fueling Michigan’s drive to be known nationally as “The Trails State.” The trail system offers ample opportunities for bicyclists, hikers, ORV riders, cross-country skiers, snowmobilers, horseback riders and more.

The DNR manages trails in all regions of the state and maintains strong partnerships with other state agencies and public and private entities to facilitate the management and promotion of the trail system. Trail operations and maintenance are accomplished in a variety of ways, depending on the trail uses and the capacity of DNR and local partners. It is commonplace for a segment of trail to be designated for multiple uses (e.g. snowmobile, hiking, bicycling, and equestrian). These shared trails offer more opportunity for trail-based recreation and build a sense of community among trail user groups.

Michigan is fortunate to have a robust motorized trail program, which includes Off-Road Vehicle (ORV) and Snowmobile trails. The operation, maintenance, acquisition, and development of these trails are supported with various federal and state restricted fund sources, including user fees.

The State’s trails are maintained by volunteers, non-profit organizations, friend groups, and trail users who enjoy giving back and volunteering their time. Day-to-day trail management is overseen by the Department on a regional level, however strong partnerships are established at the local level for trail maintenance. This amplifies the capacity of DNR resources and results in more robust trail systems. Once constructed, trails become local and statewide assets demonstrating the impact and vital role of strong partnerships in a successful state trail network.

The Michigan Trails Advisory Council (MTAC) advises the DNR and the governor on the creation, development, operation, and maintenance of motorized and non-motorized trails in the state. MTAC works closely with DNR staff to monitor current trail recreation trends and emerging issues, as well as plan for the management of Michigan’s trail system into the future. MTAC consists of 11 governor-appointed members, who serve terms of four years. Along with MTAC, there are four subcommittees who advise the Department on specific trail types and issues. These subcommittees include:

- Off-Road Vehicle Advisory Workgroup
- Snowmobile Advisory Workgroup
- Non-Motorized Advisory Workgroup
- Equine Trails Subcommittee

### **Inventory**

DNR Parks and Recreation Division (PRD) maintains an up-to-date trail inventory through the work of field staff, data provided by partners, and surveys completed in conjunction with construction. Data on infrastructure location, condition, trail mileage, and other assets is stored and maintained as part of DNR’s department-wide GIS system. Utilizing an enterprise GIS, DNR tracks geographic location data of trail assets, like trailside amenities and 65 different attributes (e.g., surface type, width, use types) that comprise the spatial inventory of DNR trails. PRD has implemented special trail inventories as needed,

including an ongoing project focused on mapping of equestrian trails and facilities in the Lower Peninsula.

Trail mileage totals fluctuate regularly due to trail projects, re-routes, construction, and GIS data collection. The current inventory of trails by designated use includes the following:

- Non-motorized – 4,698 miles
- Motorized – 7,907 miles
- Shared Use Motorized and Non-motorized – 706 miles
- State Designated Total – 13,311 miles

## **Assessment**

The desire for trail development and improvement is a top priority in the majority of local park and recreation agency five-year plans, which require public input to inform the local recreation priorities. Infrastructure assessment and maintenance is a growing need for DNR-managed trails, ensuring that informed trail management and funding results in a sustainable network of public trails.

In recent years, PRD has prioritized building and maintaining unique partnerships with non-profit groups, local governments, federal agencies, and trail users to more effectively manage the state's trail system. These partnerships allow for more trail-related work to be accomplished and a stronger network of partners working toward a common vision for the benefit of the public. Strong partnerships result in a more effective system for trail management.

Guiding PRD's efforts are several documents and regular communication with users, stakeholders, and partners. The 2018-2022 Statewide Comprehensive Outdoor Recreation Plan (SCORP) highlights the popularity of walking outside and reinforces goals of continuing to create trail connections, maintaining the state trail network, and increasing water trail access and information. Two PRD documents provide guidance for trail objectives: The 2013-2018 Comprehensive Trails Plan and the recently updated 2017-2022 PRD Strategic Plan. Both plans address statewide trail priorities. The PRD Strategic Plan also highlights associated goals such as invasive species management, partnerships, prosperity, and engaging new and unique users.

### Statewide Trail Plan Update

To guide DNR efforts to develop and manage the state trail system, the 2013-2018 Comprehensive Trails Plan will be updated beginning in FY 2020. The new plan will complement the 2017-2022 PRD Strategic Plan in format and build upon the established goals.

The 2013-2018 Comprehensive Trails Plan met the requirements of PA 45 and 46 of 2010 and set additional goals and recommendations to further position Michigan as "The Trails State." The plan outlined the history of the state trails system, specific goals for all types of trail use, and program-wide goals. Eight priority recommendations and key implementation actions were generated through the planning process. The final plan reflects common trends, threats, and opportunities across Michigan's trail system and puts forth recommendations to improve the management of Michigan's trails for the future.

PRD intends to update the Statewide Trails Plan in FY 2020 and 2021 to build upon the previous 2013-2018 plan, while including updated goals, priorities, recommendations, and clear action items to be implemented by the program. The updated plan will be clear and concise with robust stakeholder and public input, including balanced representation across all trail user groups and DNR Divisions.

## **Recent Accomplishments and Ongoing Initiatives**

- Developed and maintained partnerships with a variety of public, private, and non-profit entities for development, maintenance, funding, and marketing.
  - Ralph C. Wilson Jr. Foundation in southeast Michigan - \$100 million commitment
  - Mike Levine, private philanthropist - \$5 million commitment

- Top of Michigan Trails Council – maintenance, marketing, and advocacy
- Iron Belle Trail Fund – fundraising, marketing, and advocacy
- North Country National Scenic Trail - maintenance, marketing, and advocacy
- Michigan Trails and Greenways Alliance – marketing, advocacy, planning
- Huron Waterloo Pathways Initiative - funding, marketing, volunteers
- Developed a Pure Michigan Trail Program and designated the first trails and trail towns in accordance with a 2014 amendment to Part 721 of PA 451 of 1994.
- Developed a Designated Water Trail Program and designated eight water trails in accordance with a 2014 amendment to Part 721 of PA 451 of 1994.
- Initiated implementation of recommendations from a 2017 lean process review of the snowmobile program.
  - Working with DTMB to develop a Motorized Automated Grants Given (MAGG) program to manage snowmobile and ORV grants. Anticipated completion is fall 2020.
  - Standardized inspections of grooming equipment funded by the Snowmobile Program.
  - Worked with large landowners in the UP and a consultant to negotiate permanent snowmobile easements.
- Partnered with Oakland County Parks to develop Holly Oaks, the ORV Adventure Park in Oakland County, which is expected to open in 2020.
- Continued to refine and define PRD relationship with MDOT to manage the \$2.8 million Federal Recreation Trails Program funds.
- Performed internal audits of trail grants to identify remaining or unused funds for reallocation within the grant programs.
- Leveraged public dollars to partner with private funding.
- Worked to fill gaps in statewide trail initiatives, such as the Iron Belle Trail and Great Lake to Lake Trails.
- Partnered with MDOT for engineering and construction oversight on large trail projects.
- Continued ongoing infrastructure projects and trail repairs.
- Continuing infrastructure repairs and assessment of future infrastructure needs related to the 2018 Houghton County flooding incident.
- Continued updating GIS mapping of Michigan’s trails system and adding functionality to online resources.
- Dedicated the first heritage trail (Kal-Haven Trail State Park), celebrated 50 years of the Haywire Grade, and began interpretation efforts on additional trails in conjunction with the Michigan History Center.

## **Priorities**

- Collaborate with external partners such as non-profit groups, local governments, federal agencies, and trail supporters to maintain and connect a comprehensive trail network.
- Collaborate with internal partners such as other DNR divisions and state agencies to maintain strong relationships.
- Update the 2013-2018 Comprehensive Trails Plan.
- Regularly schedule inspections and evaluations of trail bridges and culverts.
- Continue to establish permanent snowmobile trail easements.
- Assess major trails for infrastructure needs and sustainability.
- Manage grants in a coordinated manner between all programs.
- Secure a funding source for non-motorized trail operation and maintenance.
- Create a comprehensive plan to measure and monitor trail use across all trail types.

To ensure overall statewide priorities are effectively addressed, the following criteria are used to evaluate projects:

- Is a critical need in imminent danger of failure
- Directly serves the public and enhances the visitor experience while protecting natural and cultural resources
- Responds to core infrastructure needs (utilities, buildings, roads, etc.)

- Responds to high profile issues, needs, and local concerns
- Has committed partners and associated funding

## Programming Changes

Increased trail use has led to additional user conflict, resulted in pressure for more and better trails of all types from users, and highlighted the need for economic partners. The DNR will continue working with local partners on outreach and funding, managing projects, and responding to emergencies, such as the 2018 Father’s Day flood in Houghton County.

## MACKINAC STATE HISTORIC PARKS

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### General Background

The Mackinac Island State Park Commission has statutory authority for the management and development of the Mackinac State Historic Parks (MSHP). This includes Mackinac Island State Park, which encompasses 82 percent of Mackinac Island (roughly 1,700 acres) and is Michigan’s first state park, established in 1895. Fort Mackinac, an original 18<sup>th</sup> and 19<sup>th</sup> century military outpost, and several other historic buildings are located within the island park. On the mainland, MSHP operates Michilimackinac State Park which includes Colonial Michilimackinac, a reconstructed 18<sup>th</sup> century military and fur trade center, and Old Mackinac Point Lighthouse. Mill Creek State Park is home to Historic Mill Creek Discovery Park, a 640-acre park featuring northern Michigan’s first water-powered sawmill and three miles of nature trails with interpretive signs and high ropes course activities integrated with a natural history interpretation program. (For additional details, please see the appendix for “Mackinac State Historic Parks Properties and Resources.”)

### Inventory/Assessment

Because of the scope and diversity of MSHP properties, no single inventory and assessment has been conducted to evaluate the division’s infrastructure. Instead, inventories of resources have been conducted in conjunction with other strategic planning processes. They are:

- ***Mackinac State Historic Parks, Strategic Plan, 2020-22.*** This planning document provides specific strategies for improvements in the areas of Museum Programs, Marketing and Sales, Environmental and Park Enhancements, and Finance, Fund Development, and Administration.
- The ***Detailed Architectural Survey and Risk Assessment (DACS)*** report completed in 1997. This report, which was funded by an Institute for Museum and Library Services grant, includes a prioritized list of MSHP historic building preservation projects, which is reviewed and updated annually by the MSHP Historic Preservation Committee.
- Infrastructure projects at the Mackinac Island Airport (which is managed by MSHP) are guided by the five-year ***Mackinac Island Airport Improvement Plan, 2019-2023***, developed in conjunction with MDOT-Aeronautics and contract engineers.
- In 2014 Mackinac State Historic Parks completed a comprehensive ***Park Facility Inventory and Assessment Report***, which identified 148 buildings and structures within the MSHP. Of this number, management identified 38 facilities that need immediate repairs. This inventory and assessment serve as a foundational document for prioritizing future work projects and measuring success.

Projects are prioritized by staff based on the institutional mission and are approved by the Mackinac Island State Park Commission. These priorities include:

- Public health, safety, and welfare
- Preservation of irreplaceable historic structures and resources
- Expanding and improving the public presentation of MSHP’s historical and recreational resources

## Recent Accomplishments

In FY 2019, MSHP successfully accomplished several infrastructure improvement and capital outlay projects including:

- Completed the brickwork restoration on Old Mackinac Point Lighthouse
- Completed construction of the new restroom/shelter building on Mackinac Island
- Opened the new Artist-in-Residence facility on Mackinac Island
- Installed new exhibits at Colonial Michilimackinac, Fort Mackinac, and the Richard and Jane Manooogian Mackinac Art Museum
- Completed design and secured contractor for repaving of several sections of Mackinac Island roads
- Completed design and secured contractor for improvements to Mackinac Island Airport terminal building
- Completed design and secured a contractor to construct an addition to the Mackinac Island State Park Commission administrative office in Mackinaw City
- Completed design for construction of a new warehouse at Michilimackinac State Park

## Priorities

A list of priority projects has been developed for FY 2021 and beyond. Economic conditions and available funding will largely dictate the extent to which MSHP is able to complete these projects.

### Operational Need

- Replace the outdated and undersized restroom at Arch Rock in Mackinac Island State Park with a fully accessible restroom/visitor center that will better serve the public.
- Complete restoration and interpretation of second floor rooms at Old Mackinac Point Lighthouse.
- Construct landscape improvements in the “free park” area of Michilimackinac State Park.
- Reconstruct the historic house on the east end of the Southwest Rowhouse at Colonial Michilimackinac.
- Construct box hangers at Mackinac Island Airport.
- Secure additional housing for seasonal staff.

### Preventative Maintenance

- Work with MDOT to address deteriorated sections of M-185 in Mackinac Island State Park.
- Paint multiple structures in Mackinac Island, Michilimackinac, and Mill Creek State Parks.
- Repave several sections of Mackinac Island roads.
- Repair and improve the British Landing Dock, Mackinac Island.
- Repair and improve fire protection systems at all locations.
- Improve drainage in fort at Colonial Michilimackinac.
- Repair/improve structure to preserve the Power Magazine ruins at Colonial Michilimackinac.

### Accessibility

- Create accessible roadside park along M-185 at old power plant location.
- Create ADA-accessible surface between Colonial Michilimackinac Visitors Center and the fort.
- Provide alternate experiences for visitors with disabilities who are unable to access certain resources and programs.

## Programming Changes

Mackinac State Historic Parks depends on the annual capital outlay appropriation of \$250,000 General Fund to address the backlog of infrastructure improvement and capital outlay projects. The Mackinac Island State Park Commission will expand its efforts to secure additional funding sources, including support from granting agencies, corporations, foundations, and other State of Michigan sources, such as supplemental appropriations to address capital needs in excess of the annual appropriation.

# **WATERWAYS - HARBORS, DOCKS, AND BOATING ACCESS SITES**

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## **General Background**

The DNR recognizes the importance of enhancing opportunities for public recreational boating in Michigan. Boating facilities and support services utilized by the public are necessary ingredients in offering quality boating experiences. The economic impact of recreational boating in Michigan is a significant factor in the financial well-being of many communities and the state overall.

The Michigan State Waterways Fund supports boating programs, including boating access sites, harbors, locks, and grants for both state and local facilities under the advice of the Michigan State Waterways Commission. The Harbor system provides safe harbors to boats that cruise the Michigan shoreline, and the Waterways Program continues to strive toward a system where boaters are no more than 30 miles from a safe harbor.

The State Waterways Program provides transient and seasonal boat slips at state-administered harbor facilities along Michigan's Great Lakes shoreline, in addition to recreational boating access to the Great Lakes, inland lakes, and rivers throughout the state. The DNR currently administers 19 state harbors and over 1,100 state boating access sites, developed and undeveloped. The DNR also operates two locks on the Inland Waterway, a chain of rivers and lakes nearly linking Lake Huron with Lake Michigan through the northern part of the Lower Peninsula.

The Grant-In-Aid (GIA) Waterways Program provides grants to local units of government for Great Lakes harbor facilities and boating access site facilities located on the Great Lakes, inland lakes, and rivers. There are 63 GIA harbors, along with 183 GIA boating access sites that are supported technically and financially by the DNR with Waterways funding. The presence of local harbors and boating access sites enhances the quality of life of Michigan citizens and contributes to local economic growth. To be responsive to local community project needs, the DNR evaluates grant requests on an annual basis.

## **Inventory**

There are 1,369 public boating access sites in the state, of which 1,186 are state facilities administered by the DNR (some are not yet developed). The remaining 183 sites are managed by local units of government in partnership with the Waterways GIA Program. In addition, there are 82 harbors sponsored by the Michigan State Waterways Program. The DNR manages 19 of these harbors, with an additional 63 harbors managed by local units in conjunction with the GIA Program. To complete the public harbor network, there is one harbor managed by the federal government. (For a list of the various state harbors and developed boating access sites, please refer to the appendix.)

The last location inventory was completed in 2008. State waterways inventory information was merged with the Michigan State Parks System inventory in 2009 for comprehensive and consistent management of these state assets.

## **Assessment**

Infrastructure continues to age well past intended life expectancies and greater deterioration of facilities is starting to show despite efforts to extend their lifespan. Most harbor facilities were initially developed over 40 years ago. It is projected that over 50 percent of all harbor facilities have infrastructure over 30 years old, with a normal life expectancy ranging from 20 to 30 years. For boating access sites, this typical lifespan is even shorter with several beyond their infrastructure life expectancy. Therefore, a rapid succession of requests in the next few years, many in emergency status, for infrastructure replacement and repair is anticipated. This could be amplified due to high-water levels and potential impacts to infrastructure from things like ice forces. Currently, there are over 100 active waterways capital outlay projects in various stages of development. This is in addition to the numerous small, routine maintenance, and repair projects performed by state field staff.

Project infrastructure varies widely between boating access sites and harbors. While boating access sites have little infrastructure (e.g., launch ramps, parking lots, and vault toilets), harbors can be

complex, infrastructure-intense facilities. Harbors may contain sheet pile break walls, rubble mound wave protection, shower and restroom facilities, fuel stations, floating or fixed piers, pilings, shore riprap protection, fire-fighting systems, ice damage protection equipment, other special equipment required for public safety, launch ramps, and parking lots. Harbor infrastructure is very expensive, with costs typically ranging from approximately \$4 to \$8 million for a comprehensive upgrade, depending on the facility. Boating access site upgrades typically range from \$20,000 to \$500,000 depending on the scale of the improvements and whether the project is completed in-house with state field staff or contracted out to private companies. Some projects can cost well over \$1 million. However, while projects at harbors typically cost substantially more than those at boating access sites, the number of projects at boating access sites far exceeds the number at harbors.

Each year, all state boating access sites and harbor facilities are inspected. Maintenance, upgrades, and replacements are scheduled annually. Not all improvements can be accomplished due to limited funds, creating a backlog of projects.

Primary state infrastructure needs include:

#### Parking Lot/Road

- New construction, preventative maintenance, repair, and replacement projects to address internal parking lot and entrance road surfaces at boating access sites and harbor/marina facilities
- 83 projects identified at an estimated cost of \$17.5 million

#### Major Development

- Complex and extensive development and modernization projects typically requiring a phased approach over several years; examples include complete facility redevelopments and new developments of various boating access sites
- 27 projects identified at an estimated cost of \$22.6 million

#### Operational Structure

- New construction, preventative maintenance, repair, and replacement of seawalls, docks, launch ramps, locks/dams, and other operational features
- 16 projects identified at an estimated cost of \$6 million

#### Utility

- New construction, replacement, repair, and necessary modifications to meet health and safety guidelines and requirements for systems such as water, sanitary, electrical, storm water, gas, and communications
- 3 projects identified at an estimated cost of \$210,000

#### Building

- New construction, replacement, repair, and demolition for harbor master buildings/comfort stations, field offices, pavilions, attendant booths, vault toilets, and other related structures
- 7 projects identified at an estimated cost of \$1.3 million

#### Recreational Structure

- Replacement, repair, and modifications to piers and launching platforms
- 3 projects identified at an estimated cost of \$675,000

The GIA program instituted a mandatory five-year plan for all harbor facility improvement grant applications. This approach establishes the framework for identifying GIA facility needs across multiple years and possibly multiple phases. Additionally, inspections of GIA facilities may occur prior to new grant projects being awarded, at the end of a grant agreement's obligation, and when other circumstances such as safety issues warrant. Communities are invited to participate with DNR

inspectors to receive first-hand knowledge of inspection findings to assist in the correction of deficiencies.

On April 25, 2018, the Michigan State Waterways Commission passed Resolution 04-2018-06 supporting the development of a plan to address boating infrastructure and public recreation program needs impacting boating and boating facilities. In general, this initiative includes:

- Completing the assessment of all facility needs for the 82 state-sponsored harbor facilities along the Great Lakes for the next five and ten years.
- Completing a statewide assessment of state-operated public boating access sites for the next five and ten years.
- Utilizing the State Water Trails Designation Program, support the creation of a sustainable system of water trails that are geographically dispersed, locally supported, and offer an array of experiences including varying lengths, scenery, heritage exploration, levels of difficulty, and amenities.
- Completing a strategy to address funding assistance for lake aquatic weed management that is linked to the existing Michigan invasive species program.
- Identifying funding options to address priorities of the plan.

The plan has progressed since the resolution was passed and an assessment has begun with the study of infrastructure and trends at state-sponsored harbors, boating access sites, and two lock/dam systems. This assessment is projected to be complete by the end of 2019.

## **Recent Accomplishments/Ongoing Initiatives**

### State Projects

- East Tawas State Harbor/Iosco County – Facility Redevelopment
- Eagle Harbor State Harbor/Keweenaw County – Facility Study
- Lexington State Harbor/Sanilac County – Facility Study
- Harley Ensign Memorial Boating Access Site/Macomb County – Major Launch Ramp Replacement
- Burt Lake State Park Boating Access Site/Cheboygan County – Facility Redevelopment
- Union Lake Boating Access Site/Oakland County – Facility Development
- Lexington State Harbor Boating Access Site/Sanilac County – Facility Redevelopment
- Cheboygan Lock and Dam/Cheboygan County – Facility Study

### Grant-In-Aid (GIA) Projects

- Clark Township Cedarville Harbor/Mackinac County – Infrastructure Improvements and Redevelopment
- Naubinway - Garfield Township Marina/Mackinac County – Breakwater Construction
- East Jordan Tourist Park Boating Access Site/Charlevoix County – Facility Development
- Petoskey Municipal Marina/Emmet County – Infrastructure Improvements
- Saugatuck Coghlin Park/Allegan County – Infrastructure Improvements
- City of Harrisville Harbor/Alcona County – Phase 1-4 Pier Improvements
- City of Manistique Municipal Marina/Schoolcraft County – Infrastructure Improvements
- Cheboygan County Marina/Cheboygan County – Infrastructure Improvements

## **Priorities**

The current strategy for project funding is to ensure that all facilities are funded at least minimally, to keep them safe and open to the public. Preventative maintenance and proactive replacement schedules have not been options since the number of facilities needing correction or replacement exceeds the funding capabilities. This applies to both state and GIA-operated waterways facilities. To provide basic funding for the needs of the statewide system would require approximately \$17 to \$20 million be spent annually on facility capital improvement upgrades.

Priority projects are selected considering the Department's strategies of Operational Need, Preventative Maintenance, Accessibility, Recreational Opportunities in/near Urban Areas, Partnering/Consolidation, and Energy-Efficient Facilities. The inclusion of several GIA projects is consistent with the Department's ongoing commitment to work in partnership with local government agencies and other entities to develop and maintain public recreational boating opportunities.

### State Projects

A list of state waterways infrastructure improvement priority projects is updated and maintained on an ongoing basis. Lump sum funding for state boating infrastructure, maintenance, repairs, and improvements continues to be a priority. Currently, continued improvements and upgrades at East Tawas State Harbor is a priority project.

### Grant-in-Aid (GIA) Projects

As a strategy to receive state grant assistance, communities applying for Waterways funding through the GIA program have begun phasing their projects to submit requests for smaller dollar amounts. Though the dollar amounts awarded are smaller, more communities have worked incrementally toward large-scale harbor improvements using this phased approach. Some typical projects that are priorities for GIA funding include:

- Lump sum funding for local boating facilities repair, maintenance, emergencies, and improvements through grants to local governments
- Harbor Beach Municipal Marina Improvements (Huron County)
- Elmwood Township Marina Improvements (Leelanau County)
- Marquette Presque Isle Marina Improvements (Marquette County)

### **Programming Changes**

- The number of infrastructure capital improvement needs in a harbors-of-refuge system of 82 facilities is significant and each upgrade can equate to millions of dollars in expenditures. However, adequate funding is not available to keep up with the needed repairs. Therefore, it is important the state's harbor and boating access site system be evaluated based on several factors including geographic location, feasibility, economics, water dynamics, occupancy, sustainability, and other factors to assess the overall public value.
- In 2019, a statewide assessment was executed to review all state-sponsored harbors and a substantial segment of state-sponsored boating access sites. With an anticipated completion at the end of calendar year 2019, this project tackles inventory of facility infrastructure and improvement needs over the next five to ten years, identification of trends as seen by facility operators and boaters, and potential impacts to design.

# HISTORICAL PROGRAM INFRASTRUCTURE AND FACILITIES

## General Background

The DNR operates the Michigan History Center (MHC) which includes the Archives of Michigan and the Michigan History Museum System. Both programs share a storage facility in Lansing with DTMB Records Management Services, where historic objects, documents, and photographs are preserved and made accessible to Michigan's citizens for education, research, and inspiration.

The museum system includes the flagship Michigan History Museum in Lansing and ten historic sites and museums statewide, eight of which are in state parks. The MHC is charged with maintaining the Mann House in Concord and the Iron Industry Museum in Negaunee. Responsibility for general maintenance of the other facilities is divided between DNR and DTMB. The MHC is accountable for exhibits, interpretive programs, and the care of all historic materials at each of the facilities. More than 450,000 people visit these sites each year.

Michigan History Center Museums and Historic Sites



## Inventory/Assessment

Assessments of the buildings are completed on an ongoing basis. Strategic interpretive plans help determine the priorities. The most pressing need is professional-grade specialized storage capacity for the state's museum and archival collections. This involves capital improvements in both the quality and quantity of storage. The goal is to upgrade and use existing state facilities, including the secure storage space in the former Lottery building, rather than seek the much more expensive solution of a new purpose-built facility.

In FY 2017, a federal grant supported consultants who completed HVAC and fixtures requirements to bring the museum portion of the Lansing storage facility up to professional standards and expand the capacity of the storage facility. In FY 2018, the museum was awarded \$250,000 in federal grant funds for a portion of the work, but this cannot be accessed unless it is matched with state funding. Additional shelving will be needed for both museum and archives collections.

The MHC has a long list of deferred maintenance projects that have been identified throughout the museum system. Among these, renovation of the carriage house for public programming space at the Mann House Museum in Concord is the next major project. At the Iron Industry Museum in Negaunee, the older portion of the roof still needs to be addressed, and the restrooms need repairs and upgrading.

The other significant needs are at the Michigan State Park sites where maintenance is the responsibility of the Parks and Recreation Division.

## Recent Accomplishments

Recent MHC accomplishments include plaster and paint repairs at the Mann House Museum in Concord and obtaining a competitive federal grant from the Institute for Museum and Library Services to defray some of the costs of upgrading conditions and capacity for the storage of museum objects at the Records Center facility in Lansing.

## Priorities

### Preserving Michigan's Historic Objects and Archival Documents

More than 100,000 historic objects are held in trust for the citizens of Michigan at a 31,000-square-foot storage facility in Lansing. This space does not meet national museum standards for the care and preservation of historic artifacts, putting the collection at risk. Nor does it offer any room for expansion as

currently configured. An upgrade to museum-quality, high-capacity storage fixtures and installation of HVAC systems to control temperature and humidity are priorities for MHC.

Changes in retention and disposal schedules for the statewide court system are resulting in rapidly increasing demand for storage space for county records submitted to the Archives for permanent preservation. These records are foundational documents, such as probate and circuit court records, and are essential to the documentation of property and identity in Michigan. Wayne County alone is transferring 1,700 cubic feet of records. With the addition of building space formerly occupied by the State Lottery, storage space is sufficient, but shelving remains a critical need. All existing storage fixtures are for pallet storage, which does not provide efficient access to records when they are needed.

### Programming Changes

There is a need to upgrade exhibits and make them more engaging to visitors. This could result in major remodeling, necessitating capital outlay funding in the future.

## SHOOTING RANGES

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### General Background

The DNR manages five staffed shooting ranges, three leased ranges, eight official unstaffed ranges, and over 100 unofficial ranges that provide shooting opportunities for the public. The leased shooting ranges and several of the staffed shooting ranges generate revenue for the DNR from fees and concessions. The DNR signed a 20-year lease with Michigan Shooting Centers, Inc., beginning on October 1, 2009, for the operation and maintenance of the Bald Mountain and Island Lake shooting ranges.

State-managed shooting ranges provide locations for licensed hunters to hone their archery and firearms skills, as well as provide safe and controlled settings for the public to develop skills and proficiency in firearm and archery use to support the growth of shooting sports. The ranges are utilized by hunter education groups, scouting groups, 4-H groups, persons with disabilities, and other youth and non-traditional user groups as locations to receive hands-on firearm and archer safety education training.

### Inventory

An inventory of the structures in the shooting range system was completed in 2014. Staff continues to evaluate and inventory unofficial ranges to determine whether management actions are needed.

### Assessment

Internal assessments of the shooting range program are completed on an ongoing basis.

In 2014, a multi-divisional workgroup was created and tasked with determining a five-year development strategy that would identify areas of shooting conflicts on state land, determine

<u>Designated Ranges</u>	
<b>Staffed</b>	
<u>Dansville</u> :	Mason, Ingham County
<u>Ortonville</u> :	Ortonville, Oakland County
<u>Pontiac Lake</u> :	Waterford, Oakland County
<u>Rose Lake</u> :	Bath, Clinton County
<u>Sharonville</u> :	Grass Lake, Jackson County
<b>Leased</b>	
<u>Bald Mountain</u> :	Lake Orion, Oakland County
<u>Cedar Lake Outdoor Center</u> :	Washtenaw County
<u>Island Lake</u> :	Brighton, Livingston County
<b>Unstaffed</b>	
<u>Algonac State Park</u> :	St. Clair County
<u>Echo Point</u> :	Allegan County
<u>Supply Road</u> :	Grand Traverse County
<u>Lapeer Pit</u> :	Lapeer County
<u>Lost Nation</u> :	Hillsdale County
<u>Otsego Pit</u> :	Otsego County
<u>RAM Center</u> :	Roscommon County
<u>Waterloo</u> :	Washtenaw County

needed improvements, and develop partnerships to grow shooting sports. Prioritization criteria for existing range enhancements and new range development were established and include:

- Evaluating geographical gaps in public opportunities and access to shooting ranges
- Determining a desired density of shooting ranges in relation to population centers
- Addressing issues related to safety, operations, noise, and conflict at shooting ranges
- Embracing and growing partnerships that can support operations, promotion, and the financial match requirements of grants

The current number of designated ranges is inadequate and not geographically distributed to accommodate the growing number of recreational shooters in Michigan. The DNR has identified over 100 locations on DNR-managed public land that are being used by the public as shooting areas. Use of these areas has resulted in numerous conflicts between shooters and area residents, litter on state land, and damage to natural resources (e.g., lead deposits from bullets and damage to marketable timber). Because the DNR manages over 4 million acres of public land, there are considerable options through the state game areas, state forests, state parks, and state recreation areas to relieve the pressure and scrutiny that shooting ranges face from residential and commercial development.

### **Recent Accomplishments**

In September 2015, the DNR received a five-year grant from the U.S. Fish and Wildlife Service (USFWS) in the amount of \$3 million with a 25 percent match requirement (\$1 million) to address the development of shooting ranges in Michigan. This grant is instrumental in the implementation of the five-year development strategy.

In 2016, the DNR completed improvements at the Pontiac Lake Shooting Range and construction of the Hal and Jean Glasson Shooting Education Center at the Rose Lake Shooting Range.

In 2017, utilizing funds from two USFWS grants, National Rifle Association grants, and FY 2016 and 2018 General Fund, improvements were made at the existing shooting range at the Algonac State Park; sound studies were completed at Lapeer, Allegan, and Barry State Game Areas, and in Marquette County; and on October 1, 2017 construction began at the DNR Supply Road Range in Grand Traverse County.

The Supply Road Shooting Range in Grand Traverse County was completed in 2018. This was the number one range priority for the DNR. The range opened to public use in September 2018. The DNR plans to complete restoration at other target shooting areas in Grand Traverse County.

Design and construction were completed at the Echo Point Shooting Range at the Allegan State Game Area and the range was reopened to the public in September 2019.

Design has been completed for the Lapeer Pit Shooting Range at the Lapeer State Game Area. Construction will begin in December 2019 and is scheduled to be completed by July 2020.

Construction at the Supply Road, Echo Point, and Lapeer Pit ranges is made possible through the five-year USFWS range development grant and Michigan Natural Resources Trust Fund (MNRTF) grants awarded in FY 2017 and 2018.

Efforts continued in 2019 to select a range development site in Marquette County. The selection of a range site was completed in summer 2019 and the DNR anticipates construction to be completed by September 30, 2020. As the first DNR range in the Upper Peninsula, the Marquette County range is a priority project for the DNR, made possible through a FY 2018 MNRTF grant, FY 2018 General Fund, and funds from the five-year USFWS range development grant.

DNR will be submitting an additional grant request to the USFWS in late 2019, with an anticipated start date of January 1, 2020. This new grant will provide funds for range development in Ontonagon, Barry, and Roscommon counties as well as for site remediation work throughout the state. These grant funds will be matched by grants from the MNRTF, land managing division funds, donations, and National Rifle Association grants.

In 2018, site evaluation and design work were completed for the improvements to the existing range operated by Lake Superior Sportsman's Club (LSSC) on public land in Ontonagon County. In 2019 the Department focused on wetland delineation, soil evaluation, and fund raising. The LSSC has raised \$140,000 and the DNR is seeking additional funding from the Michigan Natural Resources Trust Fund as their grant awards are announced in December 2019. These funds will provide the required match for the new USFWS grant. Construction would begin in 2020 with the goal of completion in 2021.

The Department has applied for a grant through the MNRTF for construction of a new range within the Barry State Game Area. MNRTF grant decisions are expected in December 2019 and, if awarded, design will begin immediately with construction completion planned for summer 2020. The MNRTF funds will provide the match for the new USFWS grant.

The Department is in the process of acquiring a parcel of land in Roscommon County that is surrounded by state forest land. This parcel would be primarily utilized for range development. DNR has applied for a MNRTF grant and, if awarded in December 2019, design work for a new Roscommon County range would begin immediately. The MNRTF funds will provide the match for the new USFWS grant. The Roscommon County range would provide one of the few 1,000-yard distance ranges in the Great Lakes area. Construction is anticipated to begin in fall 2020 with completion in 2021.

In March 2018, the DNR was awarded an additional grant (totaling \$1.25 million) from the USFWS for archery and firearm range improvements at non-DNR ranges that are open to the public. This grant allows the DNR to pass-through up to 75 percent of project funding to the partner who in turn provides the necessary 25 percent match. With this funding, construction improvements to the indoor firearms range at Michigan Technological University (MTU) in Houghton (Houghton County) were completed in August 2019. In addition, development of the new archery park in Ogemaw County, through cooperation with the Ogemaw Hills Sportsman's Association, is scheduled for completion by December 31, 2019. Review of new partner applications will begin in early FY 2020. The DNR anticipates awarding the remainder of the grant funds by February 2020 with construction projects completed by partners by December 31, 2020.

DNR will also be evaluating facilities and needs at both Island Lake and Bald Mountain ranges in 2020. These ranges are managed through a lease and have had little improvement over the last decade. The Department plans to work with the lessee to come to a mutually agreeable solution that allows expansion of the existing buildings to create meeting space and accessibility improvements to the outdoor range and indoor restrooms.

## **Objectives**

The overarching goal of the five-year USFWS grant is to expand and improve the number of public shooting ranges in Michigan with a strategic focus on addressing safety and conflict areas. This will be achieved by:

- Physical improvements at existing, designated DNR-managed ranges
- Development of new DNR ranges in areas that are under-served
- Expansion of lease/concessionaire agreements to establish a staffing presence
- Provision of financial assistance to non-DNR partner ranges
- Adequate staffing of the DNR shooting range development program

The development of more robust statewide shooting range infrastructure will provide a broader network of opportunities for existing users and growing markets such as families, women, and children. With proximity to public ranges, customers will have easier access and additional options for hunter and shooting programs. Overall, this financial investment in Michigan will grow the number of public ranges, boost visits to shooting ranges, and perhaps increase the number of people participating in hunting sports.

Outreach in the form of partnerships is another expected benefit of expanding ranges in Michigan. Including local and regional hunting and sporting groups in decision making processes will motivate these groups to be more involved with the operational needs of the shooting ranges. Through the sharing and aligning of resources, the local groups will have access to improved ranges and the DNR will have confidence knowing these partners have a vested interest in the success of their investments.

## **Priorities**

Over the remaining years of the USFWS five-year grant period, the intent is to focus statewide on expanding shooting opportunities across the network of ranges, both firearm and archery, that are open to the public. The USFWS grant requires a 25 percent match from other funding sources. Securing matching funds remains a challenge in the completion of each priority range. Thus far, the DNR has been successful in obtaining some of the much-needed match funds by creating partnerships with organizations to help fund and manage facilities; through MNRTF grants, private donations, grants from the National Wild Turkey Federation and the National Rifle Association; and with General Fund support.

The DNR continues to provide the USFWS with site-specific information related to range projects prioritized for completion. This detail includes if the range is already designated; is located where shooting is already occurring on state land in an undesignated manner; or is an existing range operated by a third party but open to the public. Additional information to be provided includes:

- Scope of work statement
- Desired outcomes
- Cost estimate
- Construction documents such as plans and specifications
- Project partners

Priorities are identified by each land-managing division within the DNR based on opportunities as well as safety and conflict concerns. Initial locations targeted for improvements over the next three years include:

- Newly developed range sites in the following areas:
  - Marquette County
  - Barry State Game Area, Barry County
  - Roscommon County
- Modifications to existing range sites at the following locations:
  - Lapeer State Game Area, Lapeer County
  - Lake Superior Sportsman’s Club Range, Ontonagon County
  - Bald Mountain Shooting Range, Oakland County
  - Island Lake Shooting Range, Livingston County

### **Programming Changes**

The Department continues to keep range users up to date on events and programming through the GovDelivery function and a shooting range email distribution list. DNR is also working to make the DNR Shooting Ranges webpage more user-friendly and to create a new page strictly for accessible shooting ranges. The Department does not have any current or planned programming changes that are expected to impact its capital outlay needs or approach to managing infrastructure related to shooting ranges.

## **INTERPRETIVE CENTERS**

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### **General Background**

The DNR operates ten visitor centers, seven at Michigan state parks, two at state fish hatcheries, and one at the Upper Peninsula State Fairgrounds. The visitor centers are generally staffed by full-time interpreters and roughly 25,000 hours of labor by seasonal employees. Tahquamenon Falls State Park is a site where a year-round interpretive program is run without a traditional visitor center. The DNR Marketing and Outreach Division (MOD) is responsible for programming and Fisheries Division and Parks and Recreation Division are responsible for major maintenance and capital improvements. More than 400,000 people visit these centers annually. MOD also operates the DNR Pocket Park facility located on the Upper Peninsula State Fair Grounds.

<b>Visitor Centers</b>
<b><u>State Parks</u></b> Carl T. Johnson Hunting & Fishing Center – Mitchell State Park Eddy Discovery Center – Waterloo State Recreation Area Gillette Sand Dune Visitor Center – Hoffmaster State Park Michigan Forest Visitor Center – Hartwick Pines State Park Saginaw Bay Visitor Center – Bay City State Recreation Area Wilderness Visitor Center – Porcupine Mountains State Park Ludington Beach House Visitor Center – Ludington State Park Tahquamenon Falls State Park
<b><u>Fish Hatcheries</u></b> Michigan Fisheries Visitor Center – Oden State Fish Hatchery Wolf Lake State Fish Hatchery Visitor Center
<b><u>Upper Peninsula State Fair Grounds</u></b> Upper Peninsula Pocket Park

### **Inventory/Assessment**

An inventory of the DNR’s visitor centers has been completed. Assessments of the condition of the buildings are also performed by Fisheries Division and Parks and Recreation Division staff on an ongoing basis.

### **Recent Accomplishments**

The reconstruction of the log porch on the classroom building and re-roofing on the shooting ranges at the Pocket Park at the Upper Peninsula State Fair Grounds occurred in 2019. Recent visitor center improvements include new aquariums and other exhibits at the Ludington State Park Beach House in 2016.

## Priorities

The wear and tear of daily use, outdated messaging, and a general lack of interactive and engaging exhibits impede the ability of the DNR to encourage and sustain visits to the interpretive centers. Some examples are listed here:

- Major renovations (exhibits, carpet, lighting, etc.) to each park and hatchery visitor center are needed.
- The Saginaw Bay and Hartwick Pines Visitor Centers have each been open for 20 years without renovation. Both auditoriums remain reliant on outdated 35 mm slide projector shows to tell the story of the park.
- The Eddy Discovery Center in Waterloo State Recreation Area was last renovated in 1999.
- Many of the original exhibits installed in the Porcupine Mountains State Park visitor center in 1983 are still in place.

In addition, wayside exhibits, along trails and at prominent state park destinations, are important and relatively inexpensive methods to inform visitors about special natural and cultural features within the state parks and in each of the state fish hatcheries. The expected life of this type of exhibit is 10-15 years depending on the amount of sun exposure and other factors. Replacing a percentage of these exhibits each year is a priority for MOD.

## Programming Changes

Programming at these ten sites is only slightly modified from past years, manipulating business hours and programming based on visitor surveys and feedback to meet agency goals and visitor needs as efficiently as possible. None of these changes impact the Department's capital outlay needs or management approach involving infrastructure.

## IMPLEMENTATION PLAN

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Capital outlay appropriations are needed to address priority infrastructure maintenance, repair, and improvement needs across the DNR. Repair and replacement of critical infrastructure that is rapidly aging and deteriorating has become increasingly difficult due to limited funding. Future appropriation requests will reflect the Department's best efforts to leverage available funding and selectively address infrastructure needs based on the priorities laid out in this plan. These priorities are consistent with the Department's capital outlay planning strategy and core strategic goals.

## **APPENDIX A – FOD CUSTOMER SERVICE CENTER (CSC) AND FIELD OFFICE LOCATIONS**

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### **CSCs (13)**

Baraga  
Bay City  
Cadillac  
Detroit  
Escanaba  
Gaylord  
Lansing  
Marquette  
Newberry  
Plainwell  
Roscommon  
Sault Ste. Marie  
Traverse City

### **Field Offices (11)**

Atlanta  
Baldwin  
Crystal Falls  
Gladwin  
Grayling  
Gwinn  
Ishpeming  
Mio  
Naubinway  
Norway  
Stephenson

## APPENDIX B – MICHIGAN STATE PARKS SYSTEM

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### **State Parks (72)**

Algonac SP  
Aloha SP  
Baraga SP  
Belle Isle Park  
Bewabic SP  
Brimley SP  
Burt Lake SP  
Cheboygan SP  
Clear Lake SP  
Coldwater SP  
Craig Lake SP  
Dodge 4 SP  
Duck Lake SP  
Fisherman's Island SP  
Grand Haven SP  
Grand Mere SP  
Harrisville SP  
Hartwick Pines SP  
Hayes SP  
Hoeft SP  
Hoffmaster SP  
Holland SP  
Indian Lake SP  
Interlochen SP  
Lake Gogebic SP  
Lakeport SP  
Laughing Whitefish Falls SP  
Leelanau SP  
Ludington SP  
Maybury SP  
McLain SP  
Mears SP  
Meridian Baseline SP  
Milliken SP & Harbor  
Mitchell SP  
Muskallonge Lake SP  
Muskegon SP  
Negwegon SP  
Newaygo SP  
North Higgins Lake SP  
Old Mission Peninsula SP  
Onaway SP  
Orchard Beach SP  
Otsego Lake SP  
Palms Book SP  
Petoskey SP  
Porcupine Mountains Wilderness SP  
Port Crescent SP  
Sanilac Petroglyphs SP  
Saugatuck Dunes SP  
Seven Lakes SP  
Silver Lake SP  
Sleeper SP  
Sleepy Hollow SP  
South Higgins Lake SP

### **State Parks - Cont. (72)**

Sterling SP  
Straits SP  
Sturgeon Point SP  
Tahquamenon Falls SP  
Tawas Point SP  
Thompson's Harbor SP  
Traverse City SP  
Twin Lakes SP  
Van Buren SP  
Van Riper SP  
Warren Dunes SP  
Watkins Lake SP  
Warren Woods SP  
Wells SP  
Wilderness SP  
Wilson SP  
Young SP

### **Historic State Parks (3)**

Cambridge Junction HSP  
Fayette HSP  
Fort Wilkins HSP

### **State Recreation Areas (23)**

Bald Mountain RA  
Bass River RA  
Bay City RA  
Brighton RA  
Fort Custer RA  
Highland RA  
Holly RA  
Ionia RA  
Island Lake RA  
Lake Hudson RA  
Lime Island RA  
Menominee River RA  
Metamora-Hadley RA  
Ortonville RA  
Pinckney RA  
Pontiac Lake RA  
Proud Lake RA  
Rifle River RA  
Rockport RA  
Tippy Dam RA  
Waterloo RA  
Wetzel RA  
Yankee Springs RA

### **State Scenic Sites (3)**

Agate Falls SS  
Bond Falls SS  
Wagner Falls SS

### **State Linear Parks (5)**

Hart-Montague Trail SP  
Kal-Haven Trail SP  
Lakelands Trail SP  
Van Buren Trail SP  
Fred Meijer White Pine Trail SP

## **APPENDIX C – MACKINAC STATE HISTORIC PARKS (MSHP) PROPERTIES AND RESOURCES**

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### **I. MACKINAC ISLAND STATE PARK**

- National Historic Landmark
- Originally Mackinac National Park (1875-1895)
- Michigan's first state park – 1895
- 1,773 acres, which is 82% of Mackinac Island
- Open all the time - 24 hours a day, 365 days a year
- Visitation - Serves 800,000 annual visitors to Mackinac Island, plus daily use by the 500 local residents
- Programs and Responsibilities:
  1. Care for historic buildings on state land
    - a. **Fort Mackinac** 1780-1895
      - Contains oldest buildings in Michigan
      - Outstanding collection of early Michigan artifacts and documents
      - Completely restored since 1958
      - Museum displays, A/V program, and living history programs
      - Major tourist attraction, with annual paid visitation of 210,000
    - b. Other historic buildings located outside Fort Mackinac, including: Biddle House, McGulpin House, Geary House, Fort Holmes, Beaumont Memorial, The Richard and Jane Manoogian Mackinac Art Museum at the Indian Dormitory, Mission Church and Mission House, Island House, Life Saving Station, Governor's Summer Residence
    - c. Supervision and regulation of privately-owned historic houses on state-leased land
  2. Operate Visitor's Center and provide public restrooms for park visitors
  3. Care for natural environment containing forest and wetlands
  4. Maintain 70.5 miles of signed and interpreted roads and trails
  5. Maintain M-185 in cooperation with Michigan Department of Transportation
  6. Provide dock for major construction activities
  7. Operate and maintain year-round airport with a lighted 3,500-foot runway, parallel taxiway, and staffed terminal
  8. Provide land for Island infrastructure systems: water, wastewater, landfill, fire station, and cemeteries
  9. Provide security and public safety:
    - a. Promulgate and enforce state park rules
    - b. Provide police protection through arrangements with state police,

county sheriff, city police, and conservation officers

- c. Assist with fire protection through contract with local municipality, by plowing all streets in the winter, providing two fire engines, and providing land for fire station
10. License commercial horse-drawn transportation, including fifty-five sightseeing carriages, seventeen taxicabs, eighteen drive-yourself carriages, and twenty-one livery carriages
11. Acquire (by gift or purchase) additional lands and historic properties, conservation and historic easements, and development rights
12. Lease lands for recreational activities, including golf courses and Great Turtle Park
11. Grant franchises for electricity and cable television
12. Maintain Executive summer residence
13. Maintain and operate Mackinac Island Scout Service Camp, serving 700 boy and girl scouts annually
14. Provide professional historical expertise to local community

## II. MICHILIMACKINAC STATE PARK

- Located in Mackinaw City
- Michigan's second state park
- Thirty-seven acres with 2,100 feet of Great Lakes shoreline
- Programs and Responsibilities:
  1. Reconstruct **Colonial Michilimackinac**
    - a. Site of eighteenth-century fur trading community (1715-1780)
    - b. Major archaeological excavation (1959-present) with over one million artifacts recovered
    - c. Reconstructed palisades and twelve structures
    - d. Museum displays, A/V program, living history programs
    - e. Major tourist attraction, with annual visitation of 100,000
    - f. Museum open May 15-October 15
    - g. National Historic Landmark
  2. Restore **Old Mackinac Point Lighthouse**
    - a. Operated as a lighthouse from 1892-1957
    - b. Includes fog signal building, barn, and associated grounds
    - c. Ongoing restoration, with museum displays, live interpretation and tours of the light tower
    - d. Major tourist attraction, with annual visitation of 30,000
  3. Operate Visitor's Center and provide public restrooms for park visitors
  4. Provide picnic and bridge viewing areas

### III. HISTORIC MILL CREEK STATE PARK

- National Register Historic Site
- Site of **Historic Mill Creek Discovery Park**
- Located four miles east of Mackinaw City on U.S. 23
- 625 acres with 3,250 feet of Great Lakes shoreline
- Open May 15-October 15, with an annual paid visitation of 40,000
- Programs and Responsibilities:
  1. Site of first industrial site in Northern Michigan (1790-1839)
  2. Major archaeological site with ongoing excavations
  3. Reconstruction and interpretation of Historic Mill Creek Discovery Park: mill dam, sawmill, British workshop, millwright's house, three miles of nature trails with interpretive signs, high ropes course activities integrated with natural history interpretation program
  4. Visitor's Center and concession building with museum exhibits and A/V program
  5. Maintenance of natural environment, including a prime trout stream and beaver pond

### IV. ADMINISTRATIVE AND RESEARCH OFFICE

- Summer administrative office on Mackinac Island; Winter administrative office in Mackinaw City
- Historical research facility (Petersen Center) in Mackinaw City
  1. 80,000 books, plans, maps, archival documents, photographs and slides
  2. Archaeological laboratory and artifact storage area with over 1,000,000 artifacts in Mackinaw City
- Historic object storage area (Heritage Center) on Mackinac Island includes original furnishings, decorative arts, tools, firearms, photographs, glass plate negatives, and surface-find artifacts

## APPENDIX D – MICHIGAN STATE HARBORS

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<u>Site ID</u>	<u>Site Name</u>
A-06-201	Au Gres
A-16-202	Straits
A-17-201	Whitefish Point
A-17-204	De Tour
A-17-205	Lime Island
A-21-201	Fayette - Snail Shell
A-32-203	Port Austin
A-35-201	East Tawas
A-42-201	Eagle Harbor
A-42-202	Copper Harbor
A-42-203	Lac La Belle
A-48-201	Little Lake
A-49-204	Mackinac Island
A-55-201	Cedar River
A-71-201	Hammond Bay
A-71-203	Presque Isle
A-76-202	Lexington
A-82-201	Grayhaven
A-82-203	Milliken

## APPENDIX E – MICHIGAN GRANT-IN AID HARBORS

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<u>County</u>	<u>Site Name</u>
Alcona	Harrisville Harbor
Alger	Burt Twp. - Grand Marais Marina
Alger	Munising Bayshore Marina
Alpena	Alpena Municipal Marina
Antrim	Elk Rapids - Edward C. Grace
Baraga	Baraga Municipal Marina
Baraga	L'Anse Municipal Marina
Bay	Bay City Liberty Harbor
Benzie	Frankfort Municipal Marina
Berrien	New Buffalo Municipal Marina
Berrien	St. Joseph - West Basin Marina
Charlevoix	Boyne City - Grant Moore Marina
Charlevoix	Charlevoix Municipal Marina
Charlevoix	East Jordan City Marina
Charlevoix	St. James Twp. - Beaver Island Marina
Cheboygan	Cheboygan County Marina
Cheboygan	Cheboygan City Municipal Marina
Cheboygan	Mackinaw City Municipal Marina
Chippewa	Sault Ste. Marie - Kemp Marina
Chippewa	Sault Ste. Marie - Charles T. Harvey Marina
Delta	Escanaba Municipal Marina
Delta	Gladstone Municipal Marina
Emmet	Harbor Springs Municipal Marina
Emmet	Petoskey City Marina
Grand Traverse	Traverse City - Duncan L. Clinch Marina
Houghton	Grand Traverse Bay Marina
Houghton	Houghton County Marina
Houghton	Houghton City Marina
Huron	Caseville Municipal Harbor
Huron	Harbor Beach Municipal Marina
Huron	Sebewaing Municipal Marina
Leelanau	Elmwood Twp. - Grelickville Marina
Leelanau	Leland Twp. Marina
Leelanau	Northport - G. Marsten Dame Marina
Leelanau	Suttons Bay Marina
Mackinac	Bois Blanc Island Marina
Mackinac	Clark Twp. - Cedarville Harbor
Mackinac	Clark Twp. - Hessel Marina

<b>County</b>	<b>Site Name</b>
Mackinac	Garfield Twp. - Naubinway Marina
Mackinac	St. Ignace Municipal Marina
Macomb	Lake St. Clair Metropark Marina
Manistee	Arcadia Harbor
Manistee	Manistee Municipal Marina
Marquette	Big Bay Harbor
Marquette	Marquette - Cinder Pond Marina
Marquette	Marquette - Presque Isle Marina
Mason	Ludington Municipal Marina
Menominee	Menominee Marina
Muskegon	Muskegon - Hartshorn Marina
Muskegon	Whitehall - White Lake Municipal Marina
Oceana	Pentwater Municipal Marina
Ontonagon	Ontonagon Municipal Marina
Ottawa	Grand Haven Marina
Presque Isle	Rogers City Marina
Sanilac	Port Sanilac Municipal Harbor
Schoolcraft	Manistique Municipal Marina
St. Clair	Port Huron - River St. Marina
St. Clair	Port Huron - Fort St. Marina
St. Clair	St. Clair - Charles F. Moore
VanBuren	South Haven Municipal Marina
Wayne	Elizabeth Park Marina
Wayne	Erma Henderson Marina
Wayne	Lake Erie Metropark Marina

**APPENDIX F – MICHIGAN STATE BOATING ACCESS SITES**  
**(DEVELOPED SITES ONLY)**

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<u>Site ID</u>	<u>Site Name</u>	<u>County</u>
A-01-002	Killmaster	Alcona
A-01-003	East Bay	Alcona
A-01-004	Harrisville State Park	Alcona
A-01-007	Harrisville	Alcona
A-01-009	South Bay	Alcona
A-02-001	Deer Lake	Alger
A-02-003	Sand Lake	Alger
A-02-009	Nawakwa Lake	Alger
A-02-010	Whitefish River	Alger
A-03-001	Big Lake	Allegan
A-03-002	Hacklander	Allegan
A-03-003	Duck Lake	Allegan
A-03-004	Green Lake	Allegan
A-03-005	Selkirk	Allegan
A-03-006	Pike Lake	Allegan
A-03-007	Miner Lake	Allegan
A-03-008	Swan Lake	Allegan
A-03-009	Lake Sixteen	Allegan
A-03-010	Sheffer Lake	Allegan
A-03-012	Base Line Lake	Allegan
A-03-013	Allegan Dam - East	Allegan
A-03-024	Pine Creek Impoundment	Allegan
A-03-025	Base Line Lake - South	Allegan
A-03-026	Eagle Lake	Allegan
A-03-028	Scott Creek	Allegan
A-04-001	Fletcher Pond	Alpena
A-04-002	Thunder Bay River	Alpena
A-04-003	Seven Mile Pond	Alpena
A-04-004	Devil's River	Alpena
A-04-008	Rockport	Alpena
A-04-010	Snug Harbor	Alpena
A-04-011	Devil's Lake	Alpena
A-04-014	Losinski Road	Alpena
A-05-001	Ellsworth Lake	Antrim
A-05-002	Clam Lake	Antrim
A-05-003	Deep Water Point	Antrim
A-05-006	Central Lake	Antrim
A-05-007	Intermediate River	Antrim
A-05-008	Lake Bellaire	Antrim
A-05-009	Openo Park	Antrim

<b><u>Site ID</u></b>	<b><u>Site Name</u></b>	<b><u>County</u></b>
A-05-010	St. Clair Lake	Antrim
A-05-011	Green Lake	Antrim
A-05-012	Henry Lake	Antrim
A-05-013	Cedar River	Antrim
A-05-014	Cedar River #2	Antrim
A-05-015	Cedar River #3	Antrim
A-05-016	Cedar River #4	Antrim
A-05-017	Warner Creek	Antrim
A-05-018	Jordan River	Antrim
A-05-019	Lake of the Woods	Antrim
A-05-020	East Port	Antrim
A-05-021	Webster Bridge	Antrim
A-05-022	Wilson Lake	Antrim
A-05-023	Torch River Bridge	Antrim
A-05-024	Torch Lake (West side)	Antrim
A-05-025	Chestonia Bridge	Antrim
A-05-026	Elk Lake	Antrim
A-05-027	Lake Bellaire	Antrim
A-05-028	Steiner Road	Antrim
A-05-030	Birch Lake	Antrim
A-05-031	Fisherman's Paradise	Antrim
A-06-003	Wigwam Bay	Arenac
A-06-004	Omer	Arenac
A-06-005	Pine River Mouth	Arenac
A-06-006	Moffatt Bridge	Arenac
A-06-101	Singing Bridge	Arenac
A-07-001	Vermilac Lake	Baraga
A-07-003	Ned Lake	Baraga
A-07-004	Ruth Lake	Baraga
A-07-006	East Branch Falls	Baraga
A-07-007	Silver River	Baraga
A-07-008	Rocky Beach	Baraga
A-07-010	Sturgeon River	Baraga
A-07-011	De Hoss Creek	Baraga
A-07-012	Keewaydin Lake	Baraga
A-07-015	Parent Lake	Baraga
A-07-016	Ole Nelson Lake	Baraga
A-07-017	Roland Lake	Baraga
A-07-018	Six Mile Creek	Baraga
A-07-024	Baraga State Park	Baraga
A-07-025	Silver River Falls	Baraga
A-08-001	Middle Lake	Barry
A-08-002	Jordan Lake	Barry
A-08-003	Fine Lake	Barry

<b><u>Site ID</u></b>	<b><u>Site Name</u></b>	<b><u>County</u></b>
A-08-004	Payne Lake	Barry
A-08-005	Irving Road	Barry
A-08-006	Cloverdale	Barry
A-08-007	Clear Lake	Barry
A-08-008	Carter Lake	Barry
A-08-009	Duncan Lake	Barry
A-08-010	Long Lake (Dowling)	Barry
A-08-011	Bristol Lake	Barry
A-08-012	Leach Lake	Barry
A-08-013	Thornapple Lake	Barry
A-08-014	Yankee Springs R.A.	Barry
A-08-015	Fish Lake	Barry
A-08-017	Chief Noonday Lake	Barry
A-08-018	Deep Lake	Barry
A-08-019	Hall Lake	Barry
A-08-020	Long Lake	Barry
A-08-021	McDonald Lake	Barry
A-08-022	Williams Lake	Barry
A-08-030	Yankee Springs R.A.	Barry
A-08-032	Airport Road	Barry
A-08-034	Fair Lake	Barry
A-09-002	Kawkawlin River	Bay
A-09-004	Coggins Road	Bay
A-09-008	Saginaw River Mouth	Bay
A-10-002	Platte Lake	Benzie
A-10-003	Goose Road	Benzie
A-10-004	Upper Herring Lake	Benzie
A-10-005	Shorter Lake	Benzie
A-10-006	Crystal Lake	Benzie
A-10-007	Brooks Lake	Benzie
A-10-009	River Road	Benzie
A-10-010	Case Bridge	Benzie
A-10-011	Turtle Lake	Benzie
A-10-013	Lower Herring Lake	Benzie
A-10-014	Hayes Bridge	Benzie
A-10-015	Davis Lake	Benzie
A-10-016	Stevens Lake	Benzie
A-10-017	Herendeene Lake	Benzie
A-10-018	Homestead Pond	Benzie
A-10-020	Little Platte Lake	Benzie
A-10-101	Grace Road	Benzie
A-10-102	Homstead Dam	Benzie
A-10-103	U.S. 31	Benzie
A-11-001	Paw Paw Lake - West	Berrien

<u>Site ID</u>	<u>Site Name</u>	<u>County</u>
A-11-002	Paw Paw Lake - East	Berrien
A-11-003	Galien River	Berrien
A-11-004	Black Lake	Berrien
A-11-008	Buchanan	Berrien
A-11-012	Benton Harbor	Berrien
A-11-013	Jasper Dairy Road	Berrien
A-11-015	Grand Mere State Park	Berrien
A-12-001	Randall Lake	Branch
A-12-002	Coldwater Lake	Branch
A-12-003	Marble Lake	Branch
A-12-004	Lake of the Woods	Branch
A-12-006	Loon Lake Channel	Branch
A-12-007	Cary Lake	Branch
A-12-008	Lake George	Branch
A-12-009	Matteson Lake	Branch
A-12-010	Kenyon Lake	Branch
A-12-011	Lake Lavine	Branch
A-12-012	Middle Lake	Branch
A-12-013	Union Lake	Branch
A-12-014	Silver Lake	Branch
A-12-015	Craig Lake	Branch
A-12-017	Oliverda Lake	Branch
A-13-001	Nottawa Lake	Calhoun
A-13-002	Goguac Lake	Calhoun
A-13-004	Lanes Lake	Calhoun
A-13-005	Duck Lake	Calhoun
A-13-006	Warner Lake	Calhoun
A-13-007	Upper Brace Lake	Calhoun
A-13-008	Lee Lake	Calhoun
A-13-009	Prairie Lake	Calhoun
A-13-010	Winnipeg Lake	Calhoun
A-13-011	Gordon Lake	Calhoun
A-13-012	Wabascon Lake	Calhoun
A-13-019	Ackley Lake	Calhoun
A-14-001	Fish Lake	Cass
A-14-002	Dowagiac River	Cass
A-14-004	Magician Lake	Cass
A-14-005	Paradise Lake	Cass
A-14-006	Diamond Lake	Cass
A-14-007	Hemlock Lake	Cass
A-14-008	Donnell Lake	Cass
A-14-010	Stone Lake	Cass
A-14-011	Driskels Lake	Cass
A-14-012	Juno Lake	Cass

<b><u>Site ID</u></b>	<b><u>Site Name</u></b>	<b><u>County</u></b>
A-14-013	Harwood Lake	Cass
A-14-014	Corey Lake	Cass
A-14-015	Bair Lake	Cass
A-14-016	Chain Lake	Cass
A-14-017	Long Lake	Cass
A-14-023	Dewey Lake	Cass
A-14-024	Christiann Creek	Cass
A-15-001	Susan Lake	Charlevoix
A-15-002	Six Mile Lake	Charlevoix
A-15-003	Boyne River	Charlevoix
A-15-004	Boyne Falls Mill Pond	Charlevoix
A-15-005	Dutchmans Bay	Charlevoix
A-15-006	West Twin Lake	Charlevoix
A-15-007	Alba Road	Charlevoix
A-15-008	Thumb Lake	Charlevoix
A-15-010	Ironton	Charlevoix
A-15-011	Deer Lake	Charlevoix
A-15-012	Rogers Road Bridge	Charlevoix
A-15-014	Adams Lake	Charlevoix
A-15-015	Nowland Lake	Charlevoix
A-15-016	Nine Mile Point	Charlevoix
A-15-017	Horton Creek	Charlevoix
A-15-020	Young State Park	Charlevoix
A-15-024	Whiting Co Park	Charlevoix
A-16-002	Mullett Lake Village	Cheboygan
A-16-003	Cochran Lake	Cheboygan
A-16-004	Jewell Road	Cheboygan
A-16-005	Munro Lake	Cheboygan
A-16-006	Silver Lake	Cheboygan
A-16-007	Douglas Lake	Cheboygan
A-16-008	Garfield Road	Cheboygan
A-16-009	The Forks	Cheboygan
A-16-010	Meadows	Cheboygan
A-16-011	Trowbridge Road	Cheboygan
A-16-013	Long Lake	Cheboygan
A-16-014	Lancaster Lake	Cheboygan
A-16-015	Douglas Lake	Cheboygan
A-16-016	Rondo	Cheboygan
A-16-017	Black River	Cheboygan
A-16-018	Sturgeon River	Cheboygan
A-16-020	Burt Lake	Cheboygan
A-16-024	Aloha State Park	Cheboygan
A-16-025	Burt Lake State Park	Cheboygan
A-16-026	Cheboygan State Park	Cheboygan

<b><u>Site ID</u></b>	<b><u>Site Name</u></b>	<b><u>County</u></b>
A-16-027	Cheboygan Dam	Cheboygan
A-17-001	Frenchman Lake	Chippewa
A-17-002	Old Eckerman Trout Pond	Chippewa
A-17-003	De Tour Village	Chippewa
A-17-004	De Tour Passage	Chippewa
A-17-005	Chub Creek	Chippewa
A-17-007	Waiska Bay	Chippewa
A-17-008	M-221 Bridge	Chippewa
A-17-009	Sugar Island	Chippewa
A-17-010	Caribou Lake	Chippewa
A-17-011	Tahquamenon Falls S.P.	Chippewa
A-17-018	Brimley State Park	Chippewa
A-17-020	Munuscong Lake	Chippewa
A-17-021	Neebish Island	Chippewa
A-17-026	Prentiss Bay	Chippewa
A-17-028	Tahquamenon Falls S.P.	Chippewa
A-17-030	Whitefish Point Harbor	Chippewa
A-17-031	Bay Mills	Chippewa
A-18-001	Long Lake	Clare
A-18-002	Five Lakes	Clare
A-18-003	Cranberry Lake	Clare
A-18-004	Windover Lake	Clare
A-18-005	Crooked Lake	Clare
A-18-006	Little Long Lake	Clare
A-18-007	Perch Lake	Clare
A-18-009	Clam River	Clare
A-18-010	Newton Creek	Clare
A-18-011	Lake George	Clare
A-18-012	Nestor Lake	Clare
A-18-013	Lily Lake	Clare
A-18-014	Muskegon River	Clare
A-18-018	Arnold Lake	Clare
A-19-001	French Road	Clinton
A-19-002	Looking Glass River	Clinton
A-19-003	Muskrat Lake	Clinton
A-19-005	Sleepy Hollow State Park	Clinton
A-20-001	Sheep Pasture	Crawford
A-20-005	Manistee River	Crawford
A-20-006	Horseshoe Lake	Crawford
A-20-007	Bluegill Lake	Crawford
A-20-008	North Branch Au Sable	Crawford
A-20-009	Meads Landing	Crawford
A-20-011	Stephans Bridge	Crawford
A-20-012	South Branch Au Sable	Crawford

<b><u>Site ID</u></b>	<b><u>Site Name</u></b>	<b><u>County</u></b>
A-20-014	McMasters Bridge	Crawford
A-20-015	Connors Flats	Crawford
A-20-016	Steckert Bridge	Crawford
A-20-017	Guthrie Lake	Crawford
A-20-018	Section One Lake	Crawford
A-20-021	K. P. Lake	Crawford
A-20-022	Kolka Creek	Crawford
A-20-025	Smith Bridge	Crawford
A-20-027	Glory Lake	Crawford
A-20-029	Bright Lake	Crawford
A-20-033	North Higgins Lake S.P.	Crawford
A-21-001	Ford River Mouth	Delta
A-21-002	Burnt Camp	Delta
A-21-003	Stonington	Delta
A-21-005	Nahma	Delta
A-21-006	South Lake	Delta
A-21-007	Garden Bay	Delta
A-21-008	Escanaba River	Delta
A-21-009	West Branch Days River	Delta
A-21-011	Portage Point West	Delta
A-21-012	Ford River	Delta
A-21-013	Rapid River Northwest	Delta
A-21-014	Reno Creek	Delta
A-21-015	Rapid River East	Delta
A-21-016	Portage Bay	Delta
A-21-017	Kipling	Delta
A-21-019	Dam 3 Impoundment	Delta
A-21-020	Little Fish Dam River	Delta
A-21-021	Rapid River Mouth	Delta
A-21-023	Fayette State Park	Delta
A-21-026	Little Bay De Noc	Delta
A-22-001	Mary Lake	Dickinson
A-22-002	Pickerel Lake	Dickinson
A-22-003	Pine Creek	Dickinson
A-22-004	Crescent Pond	Dickinson
A-22-005	Hamilton Lake	Dickinson
A-22-006	Dam #3	Dickinson
A-22-007	Bass Lake	Dickinson
A-22-008	Norway Reservoir	Dickinson
A-22-009	Warren Pond	Dickinson
A-22-010	Silver Lake	Dickinson
A-22-011	Bergen Backwater	Dickinson
A-22-012	Benton Lake	Dickinson
A-22-013	Rock Lake	Dickinson

<b><u>Site ID</u></b>	<b><u>Site Name</u></b>	<b><u>County</u></b>
A-22-014	Solberg Lake	Dickinson
A-22-015	Edey Lake	Dickinson
A-22-016	Loretto	Dickinson
A-22-018	Six Mile Lake	Dickinson
A-22-019	Ford River	Dickinson
A-22-020	Sturgeon River	Dickinson
A-22-022	Pond #2	Dickinson
A-22-028	Bodelin Access Site	Dickinson
A-22-031	West Branch Sturgeon R.	Dickinson
A-22-032	South Lake	Dickinson
A-23-005	Smithville Dam	Eaton
A-23-006	Willow Highway	Eaton
A-23-008	Narrow Lake	Eaton
A-24-001	Lake Paradise	Emmet
A-24-002	Round Lake	Emmet
A-24-003	Pickerel Lake	Emmet
A-24-005	Crooked Lake	Emmet
A-24-006	Wilderness State Park	Emmet
A-24-010	Wilderness State Park	Emmet
A-25-001	Lobdell Lake	Genesee
A-25-002	Lake Fenton	Genesee
A-25-003	Lake Ponemah	Genesee
A-26-001	Pratt Lake	Gladwin
A-26-002	North Branch Cedar River	Gladwin
A-26-003	Wiggins Lake	Gladwin
A-26-004	Lake Four	Gladwin
A-26-005	Lake Lancer	Gladwin
A-26-006	Wixom Lake - East	Gladwin
A-26-007	Cedar River	Gladwin
A-26-008	Wixom Lake - West	Gladwin
A-26-009	Secord Lake - South	Gladwin
A-26-011	Secord Lake - North	Gladwin
A-26-013	Ross Lake	Gladwin
A-27-001	Cisco Lake	Gogebic
A-27-002	Dinner Lake	Gogebic
A-27-003	Duck Lake	Gogebic
A-27-004	Thousand Island Lake	Gogebic
A-27-005	Lac Vieux Desert	Gogebic
A-27-006	Chaney Lake	Gogebic
A-27-007	Middle Brach Ontonagon River	Gogebic
A-27-008	Spring Creek	Gogebic
A-27-010	Clearwater Lake	Gogebic
A-27-011	Mud Creek Barrier Dam	Gogebic
A-27-012	Black River Lake	Gogebic

<b><u>Site ID</u></b>	<b><u>Site Name</u></b>	<b><u>County</u></b>
A-27-013	Lake Gogebic State Park	Gogebic
A-27-014	Lake Gogebic - East Side	Gogebic
A-27-015	Oman Creek	Gogebic
A-28-002	Bowers Harbor	Grand Traverse
A-28-004	Spider Lake	Grand Traverse
A-28-008	River Road	Grand Traverse
A-28-010	Fish Lake	Grand Traverse
A-28-011	Silver Lake	Grand Traverse
A-28-012	Mason Creek	Grand Traverse
A-28-013	Ellis Lake	Grand Traverse
A-28-014	Cedar Lake	Grand Traverse
A-28-016	Lake Skegemog	Grand Traverse
A-28-018	Bass Lake - North	Grand Traverse
A-28-020	Green Lake	Grand Traverse
A-28-021	Cedar Hedge Lake Outlet	Grand Traverse
A-28-022	Cedar Hedge Lake	Grand Traverse
A-28-023	Bass Lake - South	Grand Traverse
A-28-024	Arbutus Lake #4	Grand Traverse
A-28-030	Interlochen State Park - Day Use	Grand Traverse
A-28-031	Interlochen State Park - Green Lake	Grand Traverse
A-28-033	East Arm	Grand Traverse
A-28-034	Interlochen State Park - Campground	Grand Traverse
A-29-001	Maple Road	Gratiot
A-30-001	Hemlock Lake	Hillsdale
A-30-002	Cub Lake	Hillsdale
A-30-003	Bear Lake	Hillsdale
A-30-004	Bird Lake	Hillsdale
A-30-005	Long Lake	Hillsdale
A-30-006	Round Lake	Hillsdale
A-30-007	Little Long Lake	Hillsdale
A-30-009	Lake Diane	Hillsdale
A-31-001	Otter Lake	Houghton
A-31-002	Clear Lake	Houghton
A-31-004	Bootjack	Houghton
A-31-005	Little Rice Lake	Houghton
A-31-006	Prickett Dam Backwaters	Houghton
A-31-007	Torch Bay	Houghton
A-31-008	Pilgrim River	Houghton
A-31-009	Sandy Lake	Houghton
A-31-010	Mud Lake	Houghton
A-31-013	Rice Lake	Houghton
A-31-014	Pike Lake	Houghton
A-31-015	Boston Pond	Houghton
A-31-016	Hungarian Falls Scenic	Houghton

<b><u>Site ID</u></b>	<b><u>Site Name</u></b>	<b><u>County</u></b>
A-31-018	Twin Lakes State Park	Houghton
A-31-025	Lily Pond Ramp	Houghton
A-31-030	South Portage Entry	Houghton
A-32-001	Fin and Feather	Huron
A-32-004	Filion Road	Huron
A-32-005	Eagle Bay	Huron
A-32-007	Bay Port	Huron
A-32-008	Sumac Island	Huron
A-32-009	Grindstone City	Huron
A-32-012	Port Austin	Huron
A-33-004	Gale Road	Ingham
A-34-001	Morrison Lake	Ionia
A-34-002	Long Lake	Ionia
A-34-003	Muir	Ionia
A-34-010	Woodard Lake	Ionia
A-34-011	Saranac	Ionia
A-34-013	Webber Impoundment	Ionia
A-34-014	Sessions Lake	Ionia
A-34-016	White's Bridge	Ionia
A-34-101	Webber Dam	Ionia
A-35-001	Au Sable River Mouth	Iosco
A-35-002	Chain Lake	Iosco
A-35-006	Long Lake	Iosco
A-35-007	Floyd Lake	Iosco
A-35-008	Cedar Lake	Iosco
A-35-009	Tawas Lake	Iosco
A-35-010	Londo Lake	Iosco
A-35-013	East Tawas Launch Ramp	Iosco
A-35-101	Foote Dam	Iosco
A-36-001	Third Fortune Lake	Iron
A-36-002	Tamarack Lake	Iron
A-36-004	Stanley Lake	Iron
A-36-005	Deadman's Lake	Iron
A-36-006	Emily Lake	Iron
A-36-007	Holmes Lake	Iron
A-36-008	Paint River	Iron
A-36-010	Scott Lake	Iron
A-36-011	Net River	Iron
A-36-012	Fire Lake	Iron
A-36-013	Indian Lake	Iron
A-36-014	Cable Lake	Iron
A-36-015	Camp Lake	Iron
A-36-017	Swan Lake	Iron
A-36-018	Lake Mary	Iron

<b>Site ID</b>	<b>Site Name</b>	<b>County</b>
A-36-019	Long Lake	Iron
A-36-020	Erickson's Landing	Iron
A-36-022	Carney Dam	Iron
A-36-023	The Wide Waters	Iron
A-36-024	Camp 6 Creek Pond	Iron
A-36-025	Snake Rapids	Iron
A-36-026	Mitchell Lake	Iron
A-36-028	Bewabic State Park	Iron
A-36-030	Snipe Lake	Iron
A-36-031	Paint River Bridge	Iron
A-36-101	Fortune Lake Mine Pit	Iron
A-37-001	Littlefield Lake	Isabella
A-37-002	Pine River	Isabella
A-37-003	Stevenson Lake	Isabella
A-38-001	Center Lake	Jackson
A-38-002	Crispell Lake	Jackson
A-38-003	Portage Lake	Jackson
A-38-004	Maple Grove Bridge	Jackson
A-38-005	Gilletts Lake	Jackson
A-38-006	Trestle Bridge	Jackson
A-38-007	Wolf Lake	Jackson
A-38-008	Pine Hill Lake	Jackson
A-38-009	Tompkins Bridge	Jackson
A-39-001	Barton Lake	Kalamazoo
A-39-002	Sherman Lake	Kalamazoo
A-39-003	Long Lake	Kalamazoo
A-39-005	Morrow Pond	Kalamazoo
A-39-006	Eagle Lake	Kalamazoo
A-39-007	Le Fever Lake	Kalamazoo
A-39-008	Paw Paw Lake	Kalamazoo
A-39-009	Rupert Lake	Kalamazoo
A-39-010	Crooked Lake	Kalamazoo
A-39-011	Sugar Loaf Lake	Kalamazoo
A-39-012	Comstock	Kalamazoo
A-39-014	Austin Lake	Kalamazoo
A-39-017	Whitford - Lawler	Kalamazoo
A-39-018	Eagle Lake	Kalamazoo
A-39-019	Kalamazoo River	Kalamazoo
A-40-001	East Lake	Kalkaska
A-40-002	Big Blue Lake	Kalkaska
A-40-004	Rapid River North	Kalkaska
A-40-005	Starvation Lake	Kalkaska
A-40-006	Bear Lake	Kalkaska
A-40-007	Freedom Park	Kalkaska

<b><u>Site ID</u></b>	<b><u>Site Name</u></b>	<b><u>County</u></b>
A-40-008	Crawford Lake	Kalkaska
A-40-009	Torch River	Kalkaska
A-40-010	Cub Lake	Kalkaska
A-40-011	Indian Lake	Kalkaska
A-40-012	Rapid River West	Kalkaska
A-40-013	Maple Creek	Kalkaska
A-40-015	Bass Lake	Kalkaska
A-40-016	Big Twin Lake	Kalkaska
A-40-017	Kettle Lake	Kalkaska
A-40-018	Rainbow Jim Bridge	Kalkaska
A-40-021	Three Mile Bend	Kalkaska
A-40-022	Manistee River	Kalkaska
A-40-023	Rapid River South	Kalkaska
A-40-025	Sand Banks	Kalkaska
A-40-026	Cranberry Lake	Kalkaska
A-40-027	Manistee River - Hanson	Kalkaska
A-41-001	Murray Lake	Kent
A-41-002	Campau Lake	Kent
A-41-003	Bass Lake	Kent
A-41-004	Camp Lake	Kent
A-41-005	Big Pine Island Lake	Kent
A-41-006	Campbell Lake	Kent
A-41-007	Ada	Kent
A-41-008	Lincoln Lake	Kent
A-41-009	Lime Lake	Kent
A-41-011	Rogue River	Kent
A-41-014	Rogue River Mouth	Kent
A-41-015	Pratt Lake	Kent
A-41-016	Knapp Street Bridge	Kent
A-41-019	Lowell	Kent
A-41-101	Friske Dr.	Kent
A-41-102	Summit Avenue	Kent
A-42-001	Lake Medora	Keweenaw
A-42-002	Gratiot Lake	Keweenaw
A-42-003	Lake Bailey	Keweenaw
A-42-004	Eliza Lake	Keweenaw
A-42-005	Thayers Lake	Keweenaw
A-42-006	Garden City Pond	Keweenaw
A-42-007	Lac La Belle Dock	Keweenaw
A-42-008	Fort Wilkins State Park	Keweenaw
A-42-009	Copper Harbor	Keweenaw
A-42-010	Eagle Harbor	Keweenaw
A-42-011	Tamarack Waterworks	Keweenaw
A-43-001	Wagon Wheel	Lake

<b><u>Site ID</u></b>	<b><u>Site Name</u></b>	<b><u>County</u></b>
A-43-002	Sulak	Lake
A-43-003	Roller Bridge	Lake
A-43-005	Fox Bridge	Lake
A-43-009	Edgetts Bridge	Lake
A-43-015	Weavers	Lake
A-43-017	Idlewild Lake	Lake
A-43-018	Little Idlewild Lake	Lake
A-43-019	Foreman Lakes	Lake
A-43-020	Blood Creek	Lake
A-43-021	Middle Branch Pere Marquette	Lake
A-43-022	Big Star Lake	Lake
A-43-023	PM River Undeveloped	Lake
A-43-024	North Lake	Lake
A-43-025	Skookum - South Bank	Lake
A-43-026	Mench Lake	Lake
A-43-027	Wolf Lake	Lake
A-43-028	Rockey	Lake
A-43-029	Harper Lake	Lake
A-43-030	Switzer Lake	Lake
A-43-032	M-37 Bridge	Lake
A-43-033	The Forks	Lake
A-43-034	Indian Bridge	Lake
A-43-035	Spencer Bridge	Lake
A-43-036	Reed Lake	Lake
A-43-037	Paradise Lake	Lake
A-43-039	Baldwin Hatchery	Lake
A-43-045	Skookum - North Bank	Lake
A-43-046	Big Bass Lake	Lake
A-44-001	Nepessing Lake	Lapeer
A-44-002	Minnewanna Lake	Lapeer
A-44-003	Big Fish Lake	Lapeer
A-44-004	Davidson Lake	Lapeer
A-44-008	Watts Lake	Lapeer
A-45-001	Lake Leelanau - West	Leelanau
A-45-002	Lake Leelanau - East	Leelanau
A-45-003	Cook Lake	Leelanau
A-45-004	Cedar Lake	Leelanau
A-45-007	Glen Lake	Leelanau
A-45-008	Lime Lake	Leelanau
A-45-009	Carp River	Leelanau
A-45-010	Armstrong Lake	Leelanau
A-45-012	West Arm	Leelanau
A-45-013	The Narrows	Leelanau
A-46-001	Sand Lake	Lenawee

<b><u>Site ID</u></b>	<b><u>Site Name</u></b>	<b><u>County</u></b>
A-46-002	Allens Lake	Lenawee
A-46-003	Devils Lake	Lenawee
A-46-004	Wamplers Lake	Lenawee
A-46-005	Round Lake	Lenawee
A-46-008	Lake Hudson	Lenawee
A-47-001	Lake Chemung	Livingston
A-47-002	East Crooked Lake	Livingston
A-47-003	Woodland Lake	Livingston
A-47-004	Whitmore Lake	Livingston
A-47-007	Bishop Lake Campground	Livingston
A-47-008	Appleton Lake	Livingston
A-47-009	Chenango Lake	Livingston
A-47-010	Chilson Pond	Livingston
A-47-011	Hiland Lake	Livingston
A-47-012	Gosling Lake	Livingston
A-47-013	Murray Lake	Livingston
A-47-014	Reed Lake	Livingston
A-47-015	Island Lake R.A.	Livingston
A-47-016	Trout Lake	Livingston
A-48-001	Manistique Lake - Northside	Luce
A-48-002	Peanut Lake	Luce
A-48-003	Silver Creek Trout Pond	Luce
A-48-004	Kak's Lake	Luce
A-48-005	McPhee's Landing	Luce
A-48-006	Natalie	Luce
A-48-007	County Line	Luce
A-48-009	Twin Lake	Luce
A-48-014	East Lake	Luce
A-48-024	Muskallonge Lake S.P.	Luce
A-48-025	Third Creek Trout Pond	Luce
A-48-026	Brockies Trout Pond	Luce
A-48-027	Bucky's Trout Pond	Luce
A-48-028	Spring Creek Trout Pond	Luce
A-48-031	Little Lake Harbor	Luce
A-48-032	Dollarville Dam	Luce
A-48-033	Dollarville Dam	Luce
A-49-002	Curtis	Mackinac
A-49-003	Naubinway	Mackinac
A-49-004	Portage Creek	Mackinac
A-49-005	Dunkles Landing	Mackinac
A-49-006	Wolfe Bay	Mackinac
A-49-007	Millecoquins Lake	Mackinac
A-49-008	Cooks Bay	Mackinac
A-49-009	McAlpine Pond	Mackinac

<b><u>Site ID</u></b>	<b><u>Site Name</u></b>	<b><u>County</u></b>
A-49-010	Upper Millecoquin River	Mackinac
A-49-017	Brevort Lake	Mackinac
A-49-018	Marquette Island	Mackinac
A-49-023	Epoufette Bay	Mackinac
A-49-027	Pine River Mouth	Mackinac
A-50-001	Harley Ensign Memorial	Macomb
A-50-003	Selfridge	Macomb
A-50-006	Clinton River Cut-Off	Macomb
A-51-003	Bear Lake	Manistee
A-51-004	Nine Mile Bridge	Manistee
A-51-005	State Road	Manistee
A-51-006	Portage Lake	Manistee
A-51-008	Jopp Bridge	Manistee
A-51-010	Bar Lake	Manistee
A-51-013	Cranberry Lake	Manistee
A-51-015	Canfield Lake	Manistee
A-51-017	Kurick Road	Manistee
A-51-018	County Line Bridge	Manistee
A-51-019	Glovers Lake	Manistee
A-51-021	Potter Bridge	Manistee
A-51-022	Tippy Dam Campground	Manistee
A-51-023	Stronach	Manistee
A-51-025	Tippy Dam	Manistee
A-51-026	East Lake Village Park	Manistee
A-51-101	Little Manistee River	Manistee
A-52-001	Big Shag Lake	Marquette
A-52-002	Big Trout Lake	Marquette
A-52-003	Swanzy Lake	Marquette
A-52-009	Bass Lake	Marquette
A-52-011	Lake Michigamme	Marquette
A-52-012	Engman's Lake	Marquette
A-52-014	Cranberry Lake	Marquette
A-52-015	East Branch Escanaba River	Marquette
A-52-016	Lily Lake	Marquette
A-52-017	Branch Escanaba River	Marquette
A-52-018	Middle Branch Escanaba River	Marquette
A-52-019	Island Lake	Marquette
A-52-020	Wolf Lake	Marquette
A-52-021	Mangum	Marquette
A-52-022	Lake of the Plains	Marquette
A-52-023	Deer Creek	Marquette
A-52-024	Sporley Lake	Marquette
A-52-025	Michigamme River	Marquette
A-52-026	Chocolay River	Marquette

<b><u>Site ID</u></b>	<b><u>Site Name</u></b>	<b><u>County</u></b>
A-52-027	Johnson Lake	Marquette
A-52-028	Chocolay River - Nelson Creek	Marquette
A-52-029	Grant Lake	Marquette
A-52-030	Goose Lake	Marquette
A-52-031	Lake Angeline	Marquette
A-52-032	Twin Lake	Marquette
A-52-033	Arfelin Lake	Marquette
A-52-034	Granite Lake	Marquette
A-52-035	Chocolay River - Le Vasseur Creek	Marquette
A-52-036	Trout Falls Creek	Marquette
A-52-037	Witch Lake	Marquette
A-52-038	Little Shag Lake	Marquette
A-52-039	Helen Lake	Marquette
A-52-041	Dead River Basin - North	Marquette
A-52-042	Hoist Basin	Marquette
A-52-043	Sawmill Creek	Marquette
A-52-044	Goose Lake	Marquette
A-52-046	Forestville	Marquette
A-52-047	McClure Storage Basin	Marquette
A-52-048	Schweitzer Creek Flowage	Marquette
A-52-049	Boston Lake	Marquette
A-52-051	Perch Lake	Marquette
A-52-055	Van Riper State Park	Marquette
A-52-059	Michigamme Dam	Marquette
A-52-060	Teal Lake	Marquette
A-52-061	Greenwood Reservoir	Marquette
A-52-066	M-28 Bridge	Marquette
A-53-001	Gun Lake	Mason
A-53-002	Upper	Mason
A-53-004	Ford Lake	Mason
A-53-005	Walhalla Road Bridge	Mason
A-53-006	Pere Marquette	Mason
A-53-007	Black River	Mason
A-53-008	Pere Marquette River - West	Mason
A-53-012	Hackert Lake	Mason
A-53-013	Tallman Lake	Mason
A-53-014	Landon Bridge	Mason
A-53-015	Pliness Lake	Mason
A-53-016	St. Mary's Lake	Mason
A-53-017	US 31	Mason
A-53-018	Ludington State Park	Mason
A-53-020	Pere Marquette - Custer	Mason
A-53-021	Pere Marquette - Fork	Mason
A-53-022	Pere Marquette - section line	Mason

<b><u>Site ID</u></b>	<b><u>Site Name</u></b>	<b><u>County</u></b>
A-53-023	Pere Marquette - USFS 5167	Mason
A-54-001	Lake Mecosta	Mecosta
A-54-002	Rogers Pond	Mecosta
A-54-003	Chippewa Lake	Mecosta
A-54-005	Pretty Lake	Mecosta
A-54-006	Townline Lake	Mecosta
A-54-007	Clear Lake	Mecosta
A-54-008	Hillview Lake	Mecosta
A-54-009	Brockway Lake	Mecosta
A-54-010	River Bend Bluffs	Mecosta
A-54-011	Jehnsen Lake	Mecosta
A-54-012	Former Rustord Pond	Mecosta
A-54-013	Muskegon River	Mecosta
A-54-014	Lower Evans Lake	Mecosta
A-54-015	Big Evans Lake	Mecosta
A-54-016	Upper Evans Lake	Mecosta
A-54-017	Winchester Dam	Mecosta
A-54-018	Burgess Lake	Mecosta
A-54-019	Altona - Little Muskegon River	Mecosta
A-54-025	131 Bridge	Mecosta
A-55-001	Cedar River Mouth	Menominee
A-55-002	Koss Landing	Menominee
A-55-003	Faithorn	Menominee
A-55-004	Lake Ann	Menominee
A-55-005	Lake Mary	Menominee
A-55-006	Linnbeck Lake	Menominee
A-55-007	Sturgeon Landing	Menominee
A-55-008	Railroad Dock	Menominee
A-55-012	Gerald Welling Memorial	Menominee
A-56-001	Big Salt River	Midland
A-56-002	Sanford Lake	Midland
A-57-001	Lucas Road	Missaukee
A-57-002	Dyer Lake	Missaukee
A-57-003	Lake Sapphire	Missaukee
A-57-004	Clam River	Missaukee
A-58-001	Hoffman Memorial	Monroe
A-58-004	Otter Creek Mouth	Monroe
A-58-006	Halfway Creek	Monroe
A-58-007	Dixie Highway	Monroe
A-58-008	Sterling State Park	Monroe
A-58-009	Swan Creek	Monroe
A-58-010	Bolles Harbor	Monroe
A-59-001	Lake Montcalm	Montcalm
A-59-003	Horseshoe Lake	Montcalm

<b><u>Site ID</u></b>	<b><u>Site Name</u></b>	<b><u>County</u></b>
A-59-004	Nevins Lake	Montcalm
A-59-005	Dickerson Lake	Montcalm
A-59-006	Clifford Lake	Montcalm
A-59-007	Derby Lake	Montcalm
A-59-008	Swan Lake (Mud)	Montcalm
A-59-009	Little Whitefish Lake	Montcalm
A-59-010	Muskellunge Lake	Montcalm
A-59-011	Half Moon Lake	Montcalm
A-59-012	Tamarack Lake	Montcalm
A-59-013	Rainbow Lake	Montcalm
A-59-014	Cowden Lake	Montcalm
A-59-015	Loon Lake	Montcalm
A-59-016	Hemmingway Lake	Montcalm
A-59-017	Crystal Lake-North	Montcalm
A-59-030	Duck Lake	Montcalm
A-59-031	Fifth Lake	Montcalm
A-60-001	Rush Lake Flooding	Montmorency
A-60-002	Rush Lake Dam	Montmorency
A-60-003	McCormick Lake	Montmorency
A-60-004	Grass Lake	Montmorency
A-60-008	Crooked Creek Pond	Montmorency
A-60-009	East Twin Lake	Montmorency
A-60-010	Avalon Lake	Montmorency
A-60-012	Bourne Lake	Montmorency
A-60-013	Gaylanta Lake	Montmorency
A-60-014	Sage Lake Flooding	Montmorency
A-60-015	Long Lake	Montmorency
A-60-016	De Cheau Lake	Montmorency
A-60-017	Crooked Lake	Montmorency
A-60-018	Clear Lake State Park	Montmorency
A-60-022	Clear Lake State Park	Montmorency
A-61-003	Muskegon State Park	Muskegon
A-61-004	Snug Harbor Muskegon State Park	Muskegon
A-61-005	White Lake Channel	Muskegon
A-61-009	Duck Lake State Park	Muskegon
A-62-001	Brooks Lake	Newaygo
A-62-002	Diamond Lake	Newaygo
A-62-003	Pickerel Lake	Newaygo
A-62-004	Newaygo	Newaygo
A-62-005	Hess Lake	Newaygo
A-62-006	Ransom Lake	Newaygo
A-62-007	Bills Lake	Newaygo
A-62-008	Bitely Lake	Newaygo
A-62-009	Woodland Lake	Newaygo

<b><u>Site ID</u></b>	<b><u>Site Name</u></b>	<b><u>County</u></b>
A-62-010	Englewright Lake	Newaygo
A-62-012	Robinson Lake	Newaygo
A-62-013	High Rollway - Thornapple	Newaygo
A-62-014	Anderson's Flats	Newaygo
A-62-015	Pine Street	Newaygo
A-62-016	Marl Pit Creek	Newaygo
A-62-017	Maple Island	Newaygo
A-62-018	Henning Park	Newaygo
A-62-020	Newaygo State Park	Newaygo
A-62-021	Steamboat Landing	Newaygo
A-62-022	Sand Lake	Newaygo
A-63-001	Orchard Lake	Oakland
A-63-002	Union Lake	Oakland
A-63-003	Lake Oakland	Oakland
A-63-004	Tackles Drive	Oakland
A-63-005	Wolverine Lake	Oakland
A-63-006	White Lake	Oakland
A-63-007	Lake Orion	Oakland
A-63-008	Big Lake	Oakland
A-63-009	Long Lake	Oakland
A-63-010	Davisburg Trout Pond	Oakland
A-63-011	Crescent Lake	Oakland
A-63-012	Loon Lake	Oakland
A-63-013	Squaw Lake	Oakland
A-63-014	Lakeville Lake	Oakland
A-63-015	Shoe Lake	Oakland
A-63-016	Maceday Lake	Oakland
A-63-017	Cedar Island Lake	Oakland
A-63-018	Tipsico Lake	Oakland
A-63-019	Fenton Trout Pond	Oakland
A-63-020	Dodge Bros. State Park #4	Oakland
A-63-021	Pontiac Lake	Oakland
A-63-022	Alderman Lake	Oakland
A-63-023	Moore Lake	Oakland
A-63-024	Lower Pettibone Lake	Oakland
A-63-025	Teeple Lake	Oakland
A-63-027	Proud Lake	Oakland
A-63-028	Heron Lake	Oakland
A-63-029	Crotched Lake	Oakland
A-63-030	Crystal Lake	Oakland
A-63-031	Holdredge Lake	Oakland
A-63-032	Wildwood-Valley Lakes	Oakland
A-63-033	Graham Lakes - South	Oakland
A-63-034	Trout Lake	Oakland

<b><u>Site ID</u></b>	<b><u>Site Name</u></b>	<b><u>County</u></b>
A-63-035	Big Seven Lake	Oakland
A-63-036	Dickinson Lake	Oakland
A-63-037	Upper Straits Lake	Oakland
A-63-038	Chamberlain Lake	Oakland
A-63-039	Prince Lake	Oakland
A-63-040	Hart Lake	Oakland
A-64-001	Crystal Lake	Oceana
A-64-002	McLaren Lake	Oceana
A-64-005	North Branch	Oceana
A-64-007	Twin Bridge	Oceana
A-64-008	Silver Lake State Park	Oceana
A-65-001	Rifle River - South	Ogemaw
A-65-002	Rifle River - North	Ogemaw
A-65-003	Clear Lake	Ogemaw
A-65-004	Klacking Creek	Ogemaw
A-65-005	Hardwood Lake	Ogemaw
A-65-006	Bougner Lake	Ogemaw
A-65-007	Sage Lake	Ogemaw
A-65-008	Horseshoe Lake	Ogemaw
A-65-009	George Lake	Ogemaw
A-65-010	Big & Little Williams	Ogemaw
A-65-012	Bass Lake	Ogemaw
A-65-013	Bush Lake	Ogemaw
A-65-014	Tee Lake	Ogemaw
A-65-015	Vaughn Creek	Ogemaw
A-65-016	Lake George	Ogemaw
A-65-017	Peach Lake	Ogemaw
A-65-018	Au Sable Lake	Ogemaw
A-65-019	Kenneth Road	Ogemaw
A-65-020	Rifle Lake	Ogemaw
A-65-021	Little Long Lake	Ogemaw
A-65-023	Grousehaven Lake	Ogemaw
A-65-024	Devoe Lake	Ogemaw
A-65-025	Grebe Lake	Ogemaw
A-65-026	Lodge Lake	Ogemaw
A-65-027	The Ranch	Ogemaw
A-65-028	Henderson Lake	Ogemaw
A-66-001	Bergland Dock	Ontonagon
A-66-002	County Line Lake	Ontonagon
A-66-003	Ewen	Ontonagon
A-66-005	Lake Gogebic	Ontonagon
A-66-006	Porcupine Mountains S.P.	Ontonagon
A-66-007	Misery River Mouth	Ontonagon
A-67-001	North Branch Pine River	Osceola

<b><u>Site ID</u></b>	<b><u>Site Name</u></b>	<b><u>County</u></b>
A-67-003	Hicks Lake	Osceola
A-67-004	East Branch Pine River	Osceola
A-67-005	Graver Road	Osceola
A-67-006	McCoy Lake	Osceola
A-67-007	Whetstone Creek	Osceola
A-67-009	Wells Lake	Osceola
A-67-010	Middle Branch River	Osceola
A-67-011	Big Lake	Osceola
A-67-012	Todd Lake	Osceola
A-67-013	Pine River	Osceola
A-67-014	Diamond Lake	Osceola
A-67-015	Muskegon River	Osceola
A-67-016	Marion Pond	Osceola
A-67-018	Muskegon River M 115	Osceola
A-67-020	Crawford Park	Osceola
A-68-001	Tea Lake	Oscoda
A-68-002	Big Creek	Oscoda
A-68-005	Whirlpool	Oscoda
A-68-006	Camp Ten Bridge	Oscoda
A-68-008	Comins Flats	Oscoda
A-68-010	M33 Roadside Park	Oscoda
A-69-001	Dixon Lake	Otsego
A-69-002	Sturgeon River	Otsego
A-69-003	Big Lake	Otsego
A-69-005	Bradford Lake	Otsego
A-69-006	Lake Manuka	Otsego
A-69-007	Heart Lake	Otsego
A-69-008	Opal Lake	Otsego
A-69-010	Big Bass Lake	Otsego
A-69-011	Pigeon River	Otsego
A-69-012	Lake Twenty-Seven	Otsego
A-69-013	Emerald Lake	Otsego
A-69-014	West Twin Lake	Otsego
A-69-015	Five Lakes - South	Otsego
A-69-022	Otsego Lake State Park	Otsego
A-70-001	Lake Macatawa	Ottawa
A-70-002	Petty's Bayou	Ottawa
A-70-003	Lloyd's Bayou	Ottawa
A-70-004	Robinson	Ottawa
A-70-005	Holland State Park	Ottawa
A-70-006	Bruce's Bayou - West	Ottawa
A-70-008	Indian Channel	Ottawa
A-70-011	Pigeon Lake	Ottawa
A-70-012	Bruce's Bayou - East	Ottawa

<b><u>Site ID</u></b>	<b><u>Site Name</u></b>	<b><u>County</u></b>
A-70-101	Grand Haven Breakwater	Ottawa
A-71-001	Lost Lake	Presque Isle
A-71-002	Long Lake	Presque Isle
A-71-003	Lake Emma	Presque Isle
A-71-004	Lake Nettie	Presque Isle
A-71-005	Quinn Creek	Presque Isle
A-71-006	US-23	Presque Isle
A-71-008	Hammond Point	Presque Isle
A-71-009	Lake Augusta	Presque Isle
A-71-010	Townhall	Presque Isle
A-71-011	Lake Ferdelman	Presque Isle
A-71-012	Bear Den Lake	Presque Isle
A-71-013	Lake May	Presque Isle
A-71-016	Onaway State Park	Presque Isle
A-71-018	Hammond Bay	Presque Isle
A-71-019	Presque Isle	Presque Isle
A-71-020	Lake Esau	Presque Isle
A-71-101	Ocqueoc River Mouth	Presque Isle
A-72-001	Houghton Lake	Roscommon
A-72-002	Lake St. Helen	Roscommon
A-72-003	Houghton Lake West	Roscommon
A-72-004	Houghton Lake East	Roscommon
A-72-005	Higgins Lake	Roscommon
A-72-006	Marl Lake	Roscommon
A-72-012	South Higgins Lake S. P.	Roscommon
A-72-014	Lake St. Helen	Roscommon
A-73-004	Flint River	Saginaw
A-73-006	M-13 Bridge	Saginaw
A-74-001	North Channel	Saint Clair
A-74-002	Fair Haven	Saint Clair
A-74-003	Deckers Landing	Saint Clair
A-74-004	Belle River	Saint Clair
A-74-006	Algonac State Park	Saint Clair
A-74-011	Ames	Saint Clair
A-74-012	Snooks	Saint Clair
A-74-018	Marine City	Saint Clair
A-75-001	Pleasant Lake	Saint Joseph
A-75-002	Klinger Lake	Saint Joseph
A-75-003	Fisher's Lake	Saint Joseph
A-75-004	Clear Lake	Saint Joseph
A-75-005	Stump Bay	Saint Joseph
A-75-006	Fish Lake	Saint Joseph
A-75-007	Thompson Lake	Saint Joseph
A-75-008	Palmer Lake	Saint Joseph

<b><u>Site ID</u></b>	<b><u>Site Name</u></b>	<b><u>County</u></b>
A-75-009	Mud Lake	Saint Joseph
A-75-010	Long Lake	Saint Joseph
A-75-011	Noah Lake	Saint Joseph
A-75-012	Lee Lake	Saint Joseph
A-75-013	Sturgeon Lake	Saint Joseph
A-75-014	Mendon	Saint Joseph
A-75-015	Omena Lake	Saint Joseph
A-75-016	Prairie River Lake	Saint Joseph
A-75-017	Portage Lake	Saint Joseph
A-76-004	Lexington Harbor	Sanilac
A-76-006	Port Sanilac	Sanilac
A-77-002	Wagner Dam	Schoolcraft
A-77-003	Kennedy Lake	Schoolcraft
A-77-005	Ten Curves	Schoolcraft
A-77-006	Dodge Lake	Schoolcraft
A-77-007	Dutch Fred Lake	Schoolcraft
A-77-009	McDonald Lake	Schoolcraft
A-77-010	Snyder Lake	Schoolcraft
A-77-011	Ashford Lake	Schoolcraft
A-77-012	Clear Creek Pond	Schoolcraft
A-77-013	Thompson Creek	Schoolcraft
A-77-017	Seul Choix Pte	Schoolcraft
A-77-025	Indian Lake State Park	Schoolcraft
A-77-027	Germfask	Schoolcraft
A-77-028	Palms Book State Park	Schoolcraft
A-77-029	Indian Lake State Park	Schoolcraft
A-79-002	Quanicassee River	Tuscola
A-80-001	Clear Lake	Van Buren
A-80-002	Round Lake	Van Buren
A-80-003	Gravel Lake	Van Buren
A-80-004	Saddle Lake	Van Buren
A-80-005	Cedar Lake	Van Buren
A-80-006	Brandywine Lake	Van Buren
A-80-007	Van Auken Lake	Van Buren
A-80-008	Three Mile Lake	Van Buren
A-80-009	Huzzy Lake	Van Buren
A-80-010	Lake Cora	Van Buren
A-80-011	Wolf Lake	Van Buren
A-80-012	Lake Eleven	Van Buren
A-80-013	Fish Lake	Van Buren
A-80-014	Scott Lake	Van Buren
A-80-015	Rush Lake	Van Buren
A-80-016	Hall Lake	Van Buren
A-80-017	Lake of The Woods	Van Buren

<b><u>Site ID</u></b>	<b><u>Site Name</u></b>	<b><u>County</u></b>
A-80-018	Shafer Lake	Van Buren
A-80-019	Black River	Van Buren
A-80-020	Eagle Lake	Van Buren
A-80-021	Reynolds Lake	Van Buren
A-80-022	School Section Lake	Van Buren
A-80-023	Lake Fourteen	Van Buren
A-80-024	Three-Legged Lake	Van Buren
A-80-025	Jeptha Lake	Van Buren
A-80-026	Bankson Lake	Van Buren
A-81-001	Bruin Lake	Washtenaw
A-81-002	Half-Moon Lake	Washtenaw
A-81-003	Sugarloaf Lake	Washtenaw
A-81-005	Joslin Lake	Washtenaw
A-81-006	North Lake	Washtenaw
A-81-007	Walsh Lake	Washtenaw
A-81-009	South Lake	Washtenaw
A-81-010	Crooked Lake	Washtenaw
A-81-011	Winnewanna Impoundment	Washtenaw
A-81-012	Pickerel Lake	Washtenaw
A-81-014	Mill Lake	Washtenaw
A-81-015	Cedar Lake	Washtenaw
A-81-016	Green Lake	Washtenaw
A-81-017	Doyle Lake	Washtenaw
A-81-020	Portage Lake	Washtenaw
A-81-021	Mud Lake	Washtenaw
A-81-022	Sullivan Lake	Washtenaw
A-81-023	Crooked Lake	Washtenaw
A-82-003	Belleville Lake - East	Wayne
A-82-009	Belleville Lake - West	Wayne
A-83-001	Mitchell West	Wexford
A-83-002	Berry Lake	Wexford
A-83-003	Harvey Bridge	Wexford
A-83-004	Baxter Bridge	Wexford
A-83-006	Fletcher Creek	Wexford
A-83-009	W. M. Mitchell State Park	Wexford
A-83-014	W. M. Mitchell State Park	Wexford
A-83-015	Pleasant Lake	Wexford