

# **South Manitou Island Boat Dock Extension Environmental Assessment**

**May 31, 2012**

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**U.S. National Park Service  
Department of Interior**

**Sleeping Bear Dunes  
National Lakeshore - Michigan**

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### **EXECUTIVE SUMMARY**

#### **Background and Purpose**

The National Park Service (NPS) proposes an extension and improvements to the dock facilities providing boat access to South Manitou Island (SMI) in Sleeping Bear Dunes National Lakeshore (National Lakeshore). The purpose of the SMI boat dock improvement project is to provide visitors and staff a safe and convenient access point to the resources of SMI that reduces or eliminates the need for frequent dredging operations.

This EA identifies the no action alternative (current management), one action alternative, and their impacts on the environment. This document was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, regulations of the Council on Environmental Quality (CEQ) (40 CFR §1508.9), and the NPS Director's Order (DO)-12 (*Conservation Planning, Environmental Impact Analysis, and Decision-Making*).

The General Management Plan for the National Lakeshore (NPS 2008) determined that ferry service for day and overnight stays on SMI would continue. The SMI boat dock, which is used for the ferry service, NPS boats and occasionally by private boats, is located on the southeast shore of SMI bay. This location is a convenient access point to the island for public visitors and NPS staff. From the dock, visitors have a short walk to the lighthouse built in 1871, a U.S. Life-Saving Service and Coast Guard station that is now a ranger station, and several preserved historic 19th century farm buildings. The island's many trails begin from the dock landing and allow visitors a scenic hike to the high perched dunes overlooking the island's western shore, a natural inland lake (Florence Lake), three designated backcountry campgrounds, and numerous other natural features.

While the current boat dock location is sheltered from prevailing winds, it also lies in shallow water along the shoreface of the beach in an area subject to sediment accumulation. Eventually, this buildup of sediment forms a sandbar beneath the boat dock that extends out into open water, blocking access to the dock. NPS personnel perform periodic dredging of the area around the dock. Until 1991, when the upland disposal site reached capacity, dredge spoil was disposed of on the island at an upland site that was not designated as a wilderness area. Since 1991, annual dredging operations have continued with disposal of the dredge spoil using a beach nourishment program to fortify sections of the SMI shoreline reduced by erosion.

During the initial planning stages of the project, particular objectives were identified as requirements for successful project completion:

- provide visitors and staff safe and convenient access to SMI resources,
- reduce or eliminate NPS staff dredging maintenance costs and work/time-use,
- eliminate potential need for large quantity contracted dredging,
- minimize the need to modify other SMI facilities (roads, trails), and
- is located outside of designated wilderness.

#### **Project Setting**

SMI is one of two Lake Michigan islands that are included in National Lakeshore. SMI is comprised of approximately 5,000 acres of varying habitats, including beaches, beach dunes, perched dunes, glacial moraines, a small inland lake (Florence Lake), swamps and bogs, open grasslands from previous

agricultural fields, and several northern hardwood and conifer forested areas. SMI is also characterized as having several historic and cultural features including a lighthouse built in 1871, a U.S. Life-Saving Service and Coast Guard station, and several farm buildings and remnants of former island settlements.

The boat dock on SMI, located on the eastern side of the island, is used by NPS boats, private boats and a commercial ferry service that provides access for visitors to the island. Landward of the project area is a small, bare beach area, kept free of vegetation by wave action. Adjoining this bare beach is a large upper beach and foredune area, approximately 50 feet in width that is populated by a few pioneer vegetation species, including Pitcher's thistle (*Cirsium pitcheri*), a Federally threatened species, and Marram grass (*Ammophila breviligulata*). Behind the foredune is a trough, separating the foredune from a backdune. Pitcher's thistle is also found in the trough and in some sand blowouts in the backdune. There is no vascular aquatic vegetation in the open water environment under and around the dock. No terrestrial or vascular aquatic vegetation exists within the area of potential effect.

### **Alternatives Under Consideration**

Two alternatives to the proposed action are considered in this EA: Alternative A (No Action alternative) and Alternative B (Construct Dock Extension). Under the No Action alternative, the proposed dock extension at SMI would not be constructed. The existing dock facility would continue to operate. Additionally, there would be a continued need for on-going maintenance dredging to support ferry operations. This dredging would be conducted as needed and would result in the removal of materials from the dock area and the disposal of such materials in nearshore aquatic habitats.

Because of increased sediment deposition currently present in the existing dock area, dredging by an outside contractor would likely still be required because the volume of sediment to be removed is beyond National Lakeshore personnel removal capabilities. In addition, moving forward, National Lakeshore personnel will still need to spend an estimated two weeks per year of two personnel working 12-hour days to try to maintain a depth which would allow ferry docking. In the future and depending on lake level fluctuations and sediment deposition rate, additional contracted dredging services may be needed.

Alternative B consists of extending the existing dock up to 100 feet further into the lake past the existing ell within the area of potential effect. Under this alternative the existing ell would remain in place. The purpose of the dock extension is not to increase capacity to serve larger or more vessels but to continue to accommodate current use. Construction of this facility is expected to be completed in a three to four week timeframe. No construction materials will touch the land surface. All equipment and materials will be stored or used from a barge. The structure will be constructed out of wood and steel connectors. Wood pilings will be driven into the lake bottom to form the basis of the structure and would be of a similar type as the existing dock facility.

### **Environmental Consequences**

A full range of environmental resources and factors related to park operations and visitor experience were evaluated as part of this EA. Factors that were considered and dismissed from detailed evaluation included topography, geology, soils, terrestrial resources, wetlands, floodplains, air quality, soundscape management, lightscape management, socioeconomics, prime and unique farmlands, archaeological resources, ethnographic resources, museum collections, Indian trust resources, environmental justice, waste management, and energy requirements and conservation potential.

Key resource issues and topics selected for detailed analysis included water resources, aquatic ecology, cultural landscapes and historic structures, special status species, park operations, and visitor use and experience. Table ES-1 presents a summary of the impact analyses performed for these issues.

**Table ES-1. Environmental Impact Summary by Alternative**

<b>Impact Topic</b>	<b>Alternative A – No Action</b>	<b>Alternative B – Dock Extension</b>
<b>Water Resources</b>	No adverse impacts to the water resources from continued dredging, as long as conditions of the required permitting are met.	No adverse impacts to the water resources would result from the construction of the extended dock. The Preferred Alternative would actually result in less overall impact to water resources since future dredging would be reduced or eliminated.
<b>Aquatic Ecology</b>	Minor adverse impacts on the aquatic ecology due to the continuance of annual maintenance dredging in nearshore areas.	Minor short-term adverse impacts from the construction of the dock extension, but long-term benefits of lesser or no impacts due to the reduction or cessation of annual maintenance dredging.
<b>Cultural Resources</b>	No impacts to historic structures or cultural resources as no construction activities would be conducted.	No impacts to historic structures; minor adverse impact to visual landscape, but proposed dock extension is to be designed and constructed to be consistent in appearance and materials as the existing dock facility.
<b>Special Status Species</b>	No impacts to special status species.	No impacts to special status species.
<b>Park Operations</b>	Minor to moderate adverse impact on park operations resulting from continued expenditure of financial and personnel resources of National Lakeshore, associated with the continued maintenance dredging of the existing dock.	Minor to moderate beneficial effects to park operations and an appreciable direct cost savings will be realized due to the reduction or cessation of maintenance dredging at the proposed dock extension.
<b>Visitor Use and Experience</b>	Moderate adverse impacts to visitor use and experience due to periodic dredging operations.	Short-term negligible to minor adverse impacts during the 3 to 4 weeks of construction of the proposed dock extension due to noise and visual impacts. Long-term major beneficial effects for visitor use and experience resulting from uninterrupted access to the island.

### Mitigation Measures

The following mitigation measures were developed to minimize the degree and/or severity of adverse effects and would be implemented during construction of the selected alternative, as needed:

- To reduce noise and emissions, construction equipment would not be permitted to idle for long periods of time.
- To minimize the potential for petrochemical leaks from construction equipment, the contractor would regularly monitor construction equipment to identify any leaks and to promptly repair those leaks. In addition, the contractor will be required to have staged at the work site appropriate spill kits to contain and clean up any petrochemical leak or spill.
- Construction workers and supervisors would be informed about special status species. Contract provisions would require the cessation of construction activities if a species were discovered in the project area, until park staff re-evaluates the project. This would allow modification of the contract for any protection measures determined necessary to protect the discovery.
- Should construction unearth previously undiscovered cultural resources, work would be stopped in the area of any discovery and the NPS would consult with the State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation, as necessary, according to

§36 CFR 800.13, *Post Review Discoveries*. In the unlikely event that human remains are discovered during construction, provisions outlined in the Native American Graves Protection and Repatriation Act (1990) would be followed.

- The construction contractor will be informed of the sensitive and historic nature of the site. NPS staff will monitor all moving activities to minimize potential damage to the historic portion of the dock.
- The NPS would ensure that all contractors and subcontractors are informed of the penalties for illegally collecting artifacts or intentionally damaging paleontological materials, archeological sites, or historic properties. Contractors and subcontractors would also be instructed on procedures to follow in case previously unknown paleontological or archeological resources are uncovered during construction.
- To minimize the potential for impacts to park visitors, variations on construction timing may be considered. The primary option includes conducting the majority of the work in the off-season (early spring) or shoulder seasons. Another option includes implementing daily construction activity curfews such as not operating construction equipment between the hours of 6 PM to 7 AM in summer (May through September). The NPS would determine this in consultation with the contractor.
- Construction workers and supervisors would be informed about the special sensitivity of National Lakeshore values, regulations, and appropriate housekeeping.
- According to *Management Policies* (2006), the NPS would strive to construct facilities with sustainable designs and systems to minimize potential environmental impacts. Development would not compete with or dominate National Lakeshore features, or interfere with natural processes, such as the seasonal migration of wildlife or spawning of fish. To the extent possible, the design and management of facilities would emphasize environmental sensitivity in construction, use of nontoxic materials (wood pilings, in constant contact with water, would not be chemically treated), resource conservation, recycling, and integration of visitors with natural and cultural settings.
- Access for the passenger ferry service will be retained if construction activities occur when the ferry operates.

### **Public Comment**

If you wish to comment on the Environmental Assessment (EA), you may post comments online at [www.nps.gov/slbe](http://www.nps.gov/slbe) or mail comments to: Superintendent; Sleeping Bear Dunes National Lakeshore, 9922 Front St. Empire, MI 49630.

This EA will be on public review for 30 days. Before including your address, phone number, e-mail address, or other personal identifying information in your comment, you should be aware that your entire comment – including your personal identifying information – may be made publicly available at any time. Although you can request in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

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