Final Environmental Assessment for the Management of Cultural Resources at Lighthouse (West Huron) Island, Huron National Wildlife Refuge

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Prepared by
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This Environmental Assessment is being prepared to evaluate the effects of the U.S. Fish and Wildlife's proposed action on the human environment in compliance with the National Environmental Policy Act of 1969, as amended (NEPA). The National Environmental Policy Act of 1969 also created the Council on Environmental Quality and tasked them with the responsibility to develop procedures for federal agencies to implement the act. The Council for Environmental Quality first promulgated these procedures as guidelines in 1971 and then as regulations at 40 CFR 1500-1509 in 1978 that were subsequently revised in 1986 and 2005. The Department of the Interior and U.S. Fish and Wildlife Service further refined these regulations through their own implementing regulations and policies found at 43 CFR 46 and 516 DM 8, and 550 FW 3, respectively. The Council on Environmental Quality revised their regulations again in July 2020, effective September 14, 2020. However, the changes made under this revision only apply to environmental analyses that commenced after that date. Because the Draft Environmental Assessment for this project was released for public comment on April 15, 2020, it is subject to compliance with the version of the regulations at 40 CFR 1500-1509 that were in effect prior to September 14, 2020. The "human environment" as defined in the National Environmental Policy Act includes cultural and natural resources, as well as social and economic considerations. Appendix A outlines the laws, policies and executive orders related to the human environment that were evaluated through this environmental assessment.

Proposed Action

The U.S. Fish and Wildlife Service (Service) is proposing to manage cultural resources on Lighthouse (West Huron) Island associated with the Huron National Wildlife Refuge (refuge) in accordance with the refuge's Comprehensive Conservation Plan (U.S. Fish and Wildlife Service 2013) and Cultural Resources Management Plan (Appendix B). For the purposes of the Cultural Resources Management Plan, cultural resources include historic structures and archeological resources. Other definitions of cultural resources can include natural resources; however, natural resource management is not included within the scope of this environmental assessment or the Cultural Resources Management Plan.

The refuge is comprised of eight islands in Lake Superior and was established in 1905. One of the largest islands, West Huron or Lighthouse Island, contains a historic Light Station consisting of a lighthouse and associated structures that were used to aid navigation from 1868 through today. In 1975, the Lighthouse was listed on the National Register of Historic Places and formally named the Huron Islands Lighthouse. Additionally, since 2004 six buildings (Assistant Keepers Quarters,

Privy, Oil House, Boat House, Fog Signal Building and Barracks) are considered eligible for listing on the National Register of Historic Places and therefore have the same protections under the National Historic Preservation Act. The Pathway and Tramway/Turntable are determined eligible for listing on the National Register of Historic Places based on the comments received during the public comment period (Appendix C). In 1970, the entire 147 acre refuge was designated the Huron Islands Wilderness (P.L. 91-504). Lighthouse Island is the only island within the refuge that has cultural resources to manage. This environmental assessment will evaluate alternatives for managing cultural resources found on Lighthouse Island and their impacts to the human and natural environment.

A proposed action is often iterative and may evolve during the National Environmental Policy Act process as the agency refines its proposal and gathers feedback from the public, tribes, and other agencies. Therefore, the final proposed action as described in the Cultural Resources Management Plan may be different from the preferred alternative proposed during the public comment period. A new proposed action became known because of additional information collected because of requests made during the public comment period and after consultation with the Michigan State Historic Preservation Office. See Appendix C for the full summary of comments received and responses. This resulted in a new preferred alternative being developed and included in this environmental assessment. The previously preferred alternative is included in this analysis as Alternative C while the new preferred alternative is Alternative D.

Background

The mission and goals of the National Wildlife Refuge System (Refuge System), the purposes of an individual refuge, Service policy and laws and international treaties guide management of national wildlife refuges. Relevant guidance includes the National Wildlife Refuge System Administration Act of 1966 (Refuge Administration Act), as amended by the National Wildlife Refuge System Improvement Act of 1997 (Improvement Act), Refuge Recreation Act of 1962, and selected portions of the Code of Federal Regulations and U.S. Fish and Wildlife Service Manual.

The mission of the Refuge System, as outlined by the Refuge Administration Act, as amended by the Improvement Act (16 U.S.C. 668dd et seq.), is "... to administer a national network of lands and waters for the conservation, management and, where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans."

The Refuge Administration Act mandates the Secretary of the Interior in administering the System to (16 U.S.C. 668dd (a) (4):

- Provide for the conservation of fish, wildlife, and plants, and their habitats within the Refuge System;
- Ensure that the biological integrity, diversity, and environmental health of the Refuge System are maintained for the benefit of present and future generations of Americans;
- Ensure that the mission of the Refuge System described at 16 U.S.C. 668dd(a)(2) and the purposes of each refuge are carried out;
- Ensure effective coordination, interaction, and cooperation with owners of land adjoining refuges and the fish and wildlife agency of the States in which the units of the Refuge System are located;
- Assist in the maintenance of adequate water quantity and water quality to fulfill the mission of the Refuge System and the purposes of each refuge;
- Recognize compatible wildlife-dependent recreational uses as the priority general public uses of the Refuge System through which the American public can develop an appreciation for fish and wildlife;
- Ensure that opportunities are provided within the Refuge System for compatible wildlife-dependent recreational uses; and
- Monitor the status and trends of fish, wildlife, and plants in each refuge.

Therefore, it is a priority of the Service to ensure that the mission of the Refuge System described at 16 U.S.C. 668dd (a) (2) and the purposes of each refuge are carried out. The primary purposes of the Huron National Wildlife Refuge are:

- "... as a refuge and breeding ground for migratory birds and other wildlife ..." E.O. 7795 and 16 U.S.C. 71 5d (Migratory Bird Conservation Act).
- "... conservation, management, and restoration of the fish, wildlife, and plant resources and their habitats for the benefit of present and future generations of Americans ... " 16 U.S.C. n 668dd (a) (2) (National Wildlife Refuge System Administration Act).
- "... to secure for the American people of present and future generations the benefits of an enduring resource of wilderness" Public Law 91-504, October 23, 1970.

Huron National Wildlife Refuge is comprised of eight Islands in Lake Superior – Lighthouse, McIntyre, Gull, Cattle (all vegetated) and four small unnamed islands (all barren outcrops). Cumulatively the islands total 147 acres with Lighthouse (sometimes called West Huron) and McIntyre (sometimes called East Huron) islands being the largest. All islands are designated wilderness and referred to as Huron

Islands Wilderness. The refuge is situated about three miles off the south shore of Lake Superior directly north of the Huron River inlet in the western Upper Peninsula region of Michigan.

The history of human occupation on the islands is reflected on the landscape today, most notably on Lighthouse Island. A lighthouse was built on Lighthouse Island with granite mined from the island in 1868 after the shipwreck of the Steamer Arctic on the island in 1860. The other six buildings and dock were added on the island over time after construction of the Lighthouse, with the last building finished in 1961. There are several other remnant site features associated with the Light Station including a small Tramway, fuel storage tanks, components of infrastructure from island utilities (phone, sewer and electric), a Pathway with concrete footbridges and steps as well as a concrete dock. The Light Station, comprised of the Huron Islands Lighthouse and six supporting buildings, has served as a navigational aid for thousands of ships charting the dangerous waters of Lake Superior for over 150 years. A description of the history of Lighthouse Island can be found in Chapter two of the Cultural Resources Management Plan (Appendix B).

The refuge Comprehensive Conservation Plan provided objectives for the management of wildlife, habitat, visitor use and cultural resources. Lighthouse Island, one of the larger islands within the refuge, is open to the public for wildlife viewing, photography and hiking. Access is only by boat and a dock is provided for visitors. Visitation occurs primarily in the summer during daylight hours due to the conditions and remote nature of the refuge.

Because the refuge is officially designated a wilderness area, a Minimum Requirements Analysis is required by law whenever a land manager is considering a use prohibited by Section 4(c) of the Wilderness Act of 1964. The refuge completed a Minimum Requirements Analysis in 2019 to determine whether action is needed in wilderness to manage the historic structures and what that action would be in order to maintain wilderness character. The analysis determined that action was needed to improve the wilderness characteristic of the 'other features of value' for this wilderness area and in order to meet requirements of other legislation. The Minimum Requirement Analysis resulted in a selected alternative to preserve the lighthouse and to document and preserve/remove other structures as determined using motorized tools. Additional Minimum Requirement Analyses will be completed prior to additional work done to preserve or remove specific buildings if the actions are outside the scope of the Minimum Requirement Analysis completed previously. The Minimum Requirement Analysis determination can be found at https://ecos.fws.gov/ServCat/DownloadFile/164016?Reference=110965.

In addition to meeting the requirements of the Wilderness Act, per Service Policy 614 FW 1-6, the refuge must identify, protect and manage cultural resources located on our lands and affected by what we do, in a spirit of stewardship and in compliance with cultural resources legislation for future generations. This is the focus of this Environmental Assessment, which has the proposed action of managing the cultural resources on the refuge in accordance with the refuge's Comprehensive Conservation Plan and Cultural Resources Management Plan. Any action put forth in this environmental assessment and the Cultural Resources Management Plan must meet Section 106 requirements of the National Historic Preservation Act. To meet these requirements consultation with required parties occurred during the Environmental Assessment process. Those parties include the Michigan State Historic Preservation Office, the Advisory Council on Historic Preservation and potential partners Huron Island Lighthouse Preservation Association and the Keweenaw Bay Indian Community. A final determination on action cannot occur without completion of the Section 106 process through developing a Memorandum of Agreement.

Purpose and Need for the Action

The need for the proposed action is to meet the Service's priorities and mandates as outlined by the Refuge Administration Act to "ensure that the mission of the Refuge System described at 16 U.S.C. 668dd(a)(2) and the purposes of each refuge are carried out" 16 U.S.C. 668dd(a)(4). The purpose of this proposed action is to manage cultural resources of Huron National Wildlife Refuge, specifically on Lighthouse Island, in order to protect natural, cultural and wilderness values of the island, per refuge purposes. A Cultural Resources Management Plan, a step down plan from the refuge Comprehensive Conservation Plan, provides details for management of cultural resources of this island on the refuge.

The need for this action is great. Service facility condition assessments from 2017 identified many deficiencies regarding the structural integrity of several of the buildings and structures, although some, like the Lighthouse, remain structurally sound. Structural engineers completed a condition assessment to assess the structural integrity of the boathouse after public comments and request from the State Historic Preservation Office. The report determined the boathouse to be an unsafe structure and it recommended public access be prohibited. See Appendix D for the Condition Assessment Report completed November 2020. Additionally, friable asbestos and lead materials pose a safety hazard to visitors and the environment as it is falling off structures. To further identify the extent of hazardous materials and possible environmental contamination, a feasibility study

was completed in December 2020. The study provides recommendations for necessary cleanup or abatement actions along with general cost estimates. The new preferred alternative was used to define its scope.

Previous and current management has taken a minimal stabilization and mothballing approach with the buildings; however, some adverse effects from a cultural resource perspective appear to be occurring. The final Cultural Resources Management Plan is needed to identify the specific disposition of each structure associated with the historic light station in order to meet agency obligations under the National Historic Preservation Act and the Wilderness Act. The Cultural Resources Management Plan furthers efforts to meet goals identified in several key refuge planning and compliance documents. Specifically, the Comprehensive Conservation Plan identified assessing cultural heritage holdings and determining the need and ultimate disposition of the Light Station structures.

Difficult logistics in the island environment also make the need for planning more critical. Stabilization, preservation, or demolition plans need to occur over many years due to funding and logistical constraints. The Cultural Resources Management Plan will be in place for the next 15-20 years. In addition, Lighthouse Island is open to public use. Management of the structures is important to ensure visitors have a safe and enjoyable experience.

Alternatives

The draft environmental assessment put out for public comment on April 15, 2020 included three alternatives, which all included the boathouse being removed. This was because the boathouse has deteriorated to the point where major repairs are needed and it poses a safety hazard to visitors due to its location adjacent to the dock and entry to the island. Because of the comments received from both the State Historic Preservation Office and the public, a Condition Assessment Report was developed to assess the structural integrity of the boathouse by a structural engineer. For more detailed information, see the summary of public comments and responses in Appendix D. Due to the additional information collected, actions to preserve the Boathouse at various levels is now included and evaluated in this final environmental assessment under all alternatives, including a new alternative that has become the agency's preferred alternative. The Cultural Resources Plan for Huron National Wildlife Refuge was also revised based on this information. The previous preferred alternative that included the removal of Fog Signal building, Barracks, Boathouse, all other features of value and preservation of remaining buildings is evaluated as Alternative C. The new preferred alternative is now

described in Alternative D and outlined in more detail in the revised Cultural Resources Management Plan. Therefore, Alternative D is described as implementing the Cultural Resources Management Plan.

Alternative A—Preserve lighthouse and stabilize or mothball all structures – No Action

To meet minimum requirements of the National Historic Preservation Act the refuge will continue to preserve the Huron Island Lighthouse while documenting and stabilizing or mothballing the remainder of the buildings on the Lighthouse Island. Mothballing or stabilizing a building is defined as the closing of a building to protect it from weather and secure it from vandalism. Mothballing is done to prevent further deterioration of the building and its historic cultural value. Under this alternative, the Boathouse will be boarded up to prevent entry and stabilized as described in the Condition Assessment (Appendix D).

Alternative B—Preserve all buildings

Under this alternative, all buildings will be preserved in place on Lighthouse Island. Preservation is defined as the act or process of applying measures necessary to sustain the existing form, integrity and materials of an historic property. No extensive replacement or new construction will take place on buildings, and instead, work will focus on ongoing maintenance and repair of historic buildings. The boathouse would undergo modified rehabilitation as described in the Condition Assessment.

Alternative C—removal of Fog Signal, Barracks, Boathouse, all other site features and preservation of remaining buildings – previously preferred alternative

Under this alternative, the Service will preserve the Privy, Oil House, Lighthouse, Assistant Keepers Quarters, Dock and Pathway while removing the Boathouse, Barracks, Fog Signal Building and all other Site Features. Site Features include the Tramway, Turntable, fuel storage tanks, septic pump system, flagpole, radio tower, in-ground concrete vaults, and utility poles and other electrical infrastructure. In the case where buildings or other site features are being removed, historical and cultural significance of these resources will be preserved in an alternative format, such as, but not limited to documentation through narrative and photography and/or interpretation through signage.

Alternative D—Preserve or demolish selected buildings as identified in the Cultural Resources Management Plan – preferred alternative

Under the preferred action alternative, the revised Cultural Resources Management Plan for Lighthouse Island on Huron National Wildlife Refuge would be implemented. This plan outlines criteria for determining the treatment of each historic structure on Lighthouse Island and is included as Appendix B to this Environmental Assessment. The plan gives the historical context of the overall Light Station, the relevance to the National Historic Preservation Act and the suggested disposition of each structure. The plan takes into consideration the current state of each structure, conditions that affect the structures, visitor use, partner interest and relevant laws and policies.

The vision for the Cultural Resources Management Plan is to capture the significance of the Light Station for visitors to experience while on and off Lighthouse Island. The Cultural Resources Management Plan is a step-down management plan from the 2012 Great Lakes Islands Comprehensive Conservation Plan for Huron National Wildlife Refuge. As much, as is possible, this plan takes information directly from the Comprehensive Conservation Plan and provides more specific information regarding cultural resource management on Lighthouse Island. In addition, the plan works in concert with Wilderness law and policies. The plan will serve as a component to wilderness stewardship planning and benefit wilderness character by laying out protective measures for the Light Station, a feature of the “other features of value” wilderness character.

The Cultural Resources Management Plan outlines the preferred treatment of each building on Lighthouse Island. The Secretary of the Interior's Standards for the Treatment of Historic Properties describes the techniques of several disciplines to treat historic properties and to document or preserve information about their historical values. There are four general treatment practices including preservation, rehabilitation, restoration and reconstruction (National Park Service 2017). Two treatments will be applied to buildings to be retained including preservation in place and rehabilitation. Preservation is defined as the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property. Work, including preliminary measures to protect and stabilize the property, generally focuses upon the ongoing maintenance and repair of historic materials and features rather than extensive replacement and new construction. New exterior additions are not within the scope of this treatment;

however, the limited and sensitive upgrading of mechanical, electrical and plumbing systems and other code-required work to make properties functional is appropriate within a preservation project. Rehabilitation is defined as the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features, which convey its historical, cultural, or architectural values. In cases where buildings will be removed, their historic value will be captured in alternative methods such as through education and interpretation.

Buildings and features are identified for preservation in place, modified rehabilitation or alternative preservation with removal. Under this alternative, the Service proposes to preserve the Fog Signal Building, Flag Pole, Radio Tower, Tramway/turntable, the nonhazardous Utility Infrastructure, Pathway, Dock, Lighthouse, Privy, Assistant Keepers Quarters and the Oil House. The boathouse will undergo modified rehabilitation to keep some of its original elements, while also providing opportunities for critical signage and shelter after being stabilized in the short-term for safety. The U.S. Coast Guard Barracks, Fuel Tank, Water Pump, and other Utility Structures posing safety or hazardous concerns will be documented and removed. Decisions on the treatment of structures is guided by four factors:

1. the placement of the building or feature within the light station's Period of Significance (1935-1961);
2. the historic function and current condition of the building or feature;
3. hazards to the environment and the public in preserving the building or feature; and
4. the Service's desire to maintain or further enhance wilderness character.

The preferred alternative meets the purpose and need of this proposed action as it optimizes the balance needed to meet Refuge System and refuge purposes while meeting National Historic Preservation Act and Wilderness requirements. This alternative also appropriately addresses safety hazards present to visitors and the environment.

Mitigation Measures to Avoid Conflicts:

Mitigation measures include activities to mitigate impacts to biological resources, public use conflicts, administrative conflicts and cultural resources. They are applied under every proposed alternative above. Mitigation measures include the following actions:

- The refuge minimizes conflict related to biological resources and refuge purposes by adopting a “wildlife first” principle explicitly stated in the Refuge Improvement Act. Precautions will be taken so that wildlife will not be adversely affected during the implementation of the plan. Activity related to preservation or demolition of cultural resources will occur between June through October during daylight hours. Timing of specific projects that could disrupt nesting birds or roosting bats would be delayed until after fledging or if monitoring indicates nests have failed or bats are gone.

- There is a bald eagle nest on the island just off the trail going to the north end of the island toward the fog signal building and barracks location. It is very close to the trail and the path puts people nearly eye level with the nest. Under the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668c), eagles are protected from disturbance. Because any activity on the island will occur after June 1 or before the end of October, there will not be impacts to nest building or egg laying/incubation periods. Impacts to hatching/rearing young and fledging young will be mitigated by following recommendations in the Bald Eagle Management guide. Specifically, building demolition or preservation activity will occur outside 660 feet from the nest. Daily utilization over consecutive multiple days of this part of the path for demolition work, transportation of preservation supplies, or trail structural repairs will occur outside of nesting season (mid-August through October) unless monitoring indicates the nest has failed and work can begin sooner. Projects that do not require heavy use of the path could be done as early as June, as short duration trips across the path has not caused nest failure in the past and is presumed to not cause future nest failure.

- Any habitat that may be degraded during demolition or preservation activities will be restored to native habitat. It is not expected any habitat will be degraded during the activities described in the plan, as buildings are located in already disturbed areas; however, measures will be taken if they do occur.

- The refuge follows recovery plan guidelines for the management of three federally threatened and endangered species. These species include the Canada lynx, northern long-eared bat, and red knot. It should be noted at the time the draft environmental assessment went out for public comment the gray wolf was listed as a threatened species. As of January 4, 2021, the gray wolf has been delisted. The Intra-Service section seven consultation form

has not been updated to remove the gray wolf analysis, as the remainder of the analysis is still applicable.

- To mitigate impacts to wilderness the refuge manager will use traditional tools when possible to preserve or demolish historic buildings or site features. A programmatic Minimum Requirement Analysis was completed prior to the Cultural Resources Management Plan that allows the use of non-traditional tools if necessary so long as the actions are within the scope of that Minimum Requirement Analysis. Any major projects proposing the use of prohibited tools will require additional analyses.

- In an effort to minimize potential safety hazards, the refuge may temporarily close to public use during preservation or demolition activities. Notice or information about any of these closures may be posted and available at the refuge office or online to mitigate conflicts.

- The State Historic Preservation Office and Advisory Council on Historic Preservation have been consulted to identify all possible adverse effects to cultural resources where there is an undertaking as defined by the National Historic Preservation Act. Specific mitigation measures to resolve these adverse effects will be defined during the development of the Memorandum of Agreement process to be completed after the completion of the Cultural Resources Management Plan.

Alternative(s) Considered, But Dismissed from Further Consideration

The demolition of all buildings and site features was dismissed from further consideration, as it would not meet the legal requirements under the National Historic Preservation Act, Wilderness Act, refuge purposes and the 1997 General Services Administration land transfer letter that describes the rights granted to the U.S. Coast Guard. The removal of the lighthouse itself was not further considered for full analysis, as it is on the National Register of Historic Places and the U.S. Coast Guard requires access for assisting in navigational aid.

During public scoping an alternative to support, a living history museum was proposed by the public. Such an alternative would require restoring all buildings and site features associated with the lighthouse station to current living condition codes and safety, which would require a budget and resources the refuge and partners could never achieve. In addition, such an action would not comply with the refuge Comprehensive Conservation Plan or the Wilderness designation.

Because of this alternative not being economically feasible nor meeting the refuge purposes, it was excluded from further analysis.

Reconstruction of buildings is considered an installation of a structure, which is a prohibited use of wilderness unless, found to be the minimum requirements for the administration of the area. Reconstruction alternatives (replacing previously removed buildings with historically accurate copies) were not considered as they would not be considered the minimum tool required to maintain the other features of value in wilderness.

During the public comment period, an alternative to open additional refuge islands to public access was proposed in order to balance the access to natural wilderness characteristics. The previously environmental assessment stated that the preferred alternative better balanced the stewardship of wilderness characteristics. The public does not have to visit wilderness to appreciate the natural quality of wilderness on the other islands. The alternative to open other refuge islands to recreational access was not considered for further analysis as it is outside of the purpose of this environmental assessment. The purpose it how to manage cultural resources not recreational access. This alternative can be further explored in future planning efforts related to visitor use.

Affected Environment

Eight small islands in Lake Superior, totaling 147 acres, make up the Huron National Wildlife Refuge. It is located just three miles off the south shore of Lake Superior in Marquette County, Michigan. McIntyre Island is the largest of the islands at 77 acres and supports the most diverse habitats. Cattle Island (12 acres) and Gull Rock (15 acres) are the sites of large herring gull colonies. The four largest islands all support some boreal forest. In addition, McIntyre Island has a few small patches of sphagnum bog. The remaining four islands make up only three acres and are little more than granite outcroppings. Lighthouse Island is the second largest island at 40 acres. Besides the lighthouse station environment and the remnant plants from past light keeper's gardens, the remaining habitat on the island is a boreal transition type. The proposed action is located only on the Lighthouse Island. See the Cultural Resources Management Plan, Appendix B for both a location map of Huron Island National Wildlife and a Site map showing locations of buildings at Lighthouse Island. Chapter three of the Comprehensive Conservation Plan (https://ecos.fws.gov/ServCat/DownloadFile/28369) provides further description of natural resources of the islands and the affected environment.

Environmental Consequences of the Action

This section analyzes the environmental consequences of the action on each affected resource, including direct and indirect effects. This Environmental Assessment only includes the written analyses of the environmental consequences on a resource when the impacts on that resource could be more than negligible and therefore considered an "affected resource". Any resources that will not be more than negligibly impacted by the action have been dismissed from further analyses. The following section contains:

1. A brief description of the affected resources in the proposed action area;
2. Impacts of the proposed action and any alternatives on those resources, including direct and indirect effects.
3. A brief description of the past, present and reasonably foreseeable other actions affecting these resources, and the cumulative impacts of the proposed action and any alternatives.

Impact Types:

- Direct effects are those, which are caused by the action and occur at the same time and place.
- Indirect effects are those, which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.
- Cumulative impacts result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-federal) or person undertakes such other actions.

Natural Resources

Under all alternatives, there would be negligible impacts to water quality, air quality, geology and soils. No actions under the alternative will affect water quality or air quality due to the nature of the action being proposed. The islands consist of pink and gray granite outcropping of Precambrian age (Payne and Zweber 2013). Actions described in the alternatives will not affect rock surfaces. Under all alternatives, mitigation measures will be taken to not affect the glacial grooves on the island. A detailed description is not included further in this section for those resources with negligible impacts across all alternatives.

Wildlife and Aquatic Species

Description of Affected Resource

Most wildlife use at Huron National Wildlife Refuge involves migratory birds, especially forest-dependent species. Past surveys (Corin 1976) have documented 79 different bird species on the refuge. Some of those species include bald eagle, peregrine falcon, northern flicker, Canada warbler, bobolink, and herring gulls. Eight mammals have been documented to use the refuge, only snowshoe hare and small mammals are year-round residents. On occasion, other mammals may cross the winter ice to explore, but they seldom take up residence. Six different reptiles and amphibians have been documented on the refuge as well. Vegetation surveys of the islands have documented 157 difference species of flora. A full list of species found on the refuge can be found in the Species list Appendix of the Habitat Management Plan (U.S. Fish and Wildlife Service 2015).

Impacts on Affected Resource

Alternative A

Under current management, there have been no observed impacts to wildlife and aquatic species. Refuge staff visit the island only once or twice during the summer months to inspect buildings and replace any of the boards covering windows or repair, other measures to prevent impacts from weather or vandalism. These visits may cause minor temporary wildlife disturbance but the infrequent visits and time spent on the island have no impact on breeding or migration. Staff visit the island when species most vulnerable to disturbance are less likely to be disturbed, such as avoiding the nesting eagle time. Considering visitation that occurs under this alternative combined with the visitation by staff, cumulative disturbance is negligible. Wildlife that are flushed from temporary disturbance utilize nearby habitat or can fly or swim to adjacent islands with similar habitat requirements. At times trees and shrubs directly adjacent to buildings are required to be removed and will affect the availability of some resources for wildlife. This removal is targeted to small areas that are likely not used by many wildlife and results in only minor habitat loss.

Alternative B and D

Preserving all buildings would require a great deal more stabilization and repair work than is currently occurring. Due to the logistics of working on this remote island, preservation of all structures would require more trips to bring materials to the structures and complete the work. Preservation work on structures in two separate locations on the island would result in a larger area being disturbed as

materials are transported and workers traverse between locations on the island. Repeated trips during the short season available for work could result in higher disturbance over a shorter period of time. Instead of two seasonal trips to the island by staff, staff and volunteers would likely make frequent visits throughout the field season and/or stay on the island and/or continuously visit the island for a week or two at a time to complete work. This could result in a more permanent disturbance and response to wildlife by altering behavior and causing changes in energy expenditure. Work would not occur during nesting periods to mitigate impacts to nest success. Visitation will likely not occur during these intense work periods because some public access would need to be limited for safety. However, visitors are not likely using the refuge every day and wildlife are not accustomed to human interactions. Under this alternative, the opportunity to restore natural habitat on the northwest side of the island is lost and thus the benefit some species may gain from that activity would not occur. Impacts from preservation activities to wildlife will be greater than all other alternatives given the frequency in which activities have to occur on a short and long-term basis; however, the impacts are likely minor negatives. Impacts of the preferred alternative would be comparable to the impacts described under Alternative B. However, under long-term maintenance, there would be one less building to maintain and in the short term; there would be a few days of more intense disturbance from building removal action. This alternative would also result in an intermediate negative impact to wildlife. In both cases, the impacts to wildlife are not substantial and results in wildlife continuing to use the refuge as habitat.

Alternative C

Preserving specific buildings would require more stabilization and repair work than is currently occurring, but would not require the long-term upkeep as described in the complete preservation alternative because some resources would be removed and no longer require maintenance. Due to the logistics of working on this remote island, preservation of all structures would require more trips to bring materials to the structures and complete the work. Repeated trips during the short season available for work could result in higher disturbance than the no action alternative. Impact in the short term will be equal to impacts of Alternative B and D and have minor negative impacts to wildlife. However, limiting which structures require preservation work will reduce disturbance in the long term. Preservation work on structures in two separate locations on the island would result in a larger area being disturbed as materials are transported and workers traverse between locations on the island. Under this alternative preservation would be focused to only one side of the island and disturbance would be more localized in geographic

scope on the long term. The majority of visitors come to the island to see the light station and by removing the other features on the northwest end visitation would decrease to that side of the island creating less disturbance to wildlife overall. Demolition work will have more short-term disturbance and would likely occur over several seasons. Once structures are completely removed from the northwest end of the island then there would be no disturbance other than from occasional visitors. In addition, removal of some structures will likely have an intermediate benefit to wildlife and habitat as more of the island will be in natural cover, even if buildings are removed to the foundation. This situation will concentrate most visitors to one side of the island.

Threatened and Endangered Species, and Other Special Status Species

Description of Affected Resource

Three threatened or endangered species could occur on the refuge. Those species include the lynx, northern long-eared bat and red knot. At the time that the Environmental Assessment was put out for public review, the gray wolf was considered a threatened species. As of January 4, 2021, the gray wolf was delisted. Information about the gray wolf has been included for those interested in use of the island by gray wolves. There have been no documented records of any of these species, including the gray wolf, within the refuge or on Lighthouse Island. Red knots are a migratory species and are only in Michigan during the spring and summer. There is no suitable habitat on Lighthouse Island, thus no red knots have been recorded on the refuge. Northern long-eared bats have also never been recorded on the refuge; however, the buildings being recommended for preservation or demolition could be used by this species. This species prefers trees with loose bark and cavities to roost in. The tree species that would be impacted by this project are younger trees that do not have bark conducive to preferred bat roosting habitat. Lynx and gray wolves may use the island during the winter months when the ice on Lake Superior allows them access to the island; however, neither have become residential on the island. More details about these species can be found in Appendix E.

Impacts on Affected Resource under all alternatives

A consultation pursuant to Section 7 of the Endangered Species Act was conducted as part of this Environmental Assessment for implementing the Cultural Resources Management Plan. A determination of “No effect” was made for three species (lynx, gray wolf and red knot) as the proposed project is likely to cause no impact to these

species since they are not found on the refuge (Appendix E). For the fourth federally listed species, northern long-eared bat, the 4(d) rule determination allows for incidental take of this species since the project is outside of any known maternity roosts or wintering hibernacula locations. As this species has not been recorded on the refuge it is not likely take will occur, but incidental take is allowed (Appendix E). The new preferred alternative does not change this determination, as the scope of the alternative was included in the analysis in considering preserving or not preserving each building. At this time, no impacts are anticipated for state listed species. A full list of state listed species in Marquette and Baraga counties can be found in Appendix F. A species not found in those counties that the refuge monitors is the state threatened narrow-leaved reed grass. To date there have been no impacts to this species due to preservation of buildings. There will likely be negligible impacts to these species under all alternatives.

Habitat and Vegetation

Description of Affected Resource

The four largest islands are predominately vegetated with boreal forest. This refuge is the only one in the U.S. Fish and Wildlife Service Great Lakes Region (Interior Region 3) with boreal forest. The trees growing on these islands are shallowly rooted with only about six inches of soil in most places. Many parts of the islands are exposed granite with lichens and reindeer moss growing in thick mats in places. Despite the difficulties of survival, balsam fir, white pine, red pine, white spruce, red maple, bigtooth aspen and paper birch make up the tree community. Cherry, Canada yew and other shrubs, grasses and wildflowers can also be found growing in the understory. The ecological integrity of the forest ecosystems at Huron National Wildlife Refuge is considered high, as no alterations have occurred in nearly 100 years (U.S. Fish and Wildlife Service 2015). For additional detail of the habitat and vegetation found on Huron National Wildlife Refuge, see chapters two, three and four of the Habitat Management Plan: https://ecos.fws.gov/ServCat/DownloadFile/45718.

Impacts on Affected Resource

Alternative A

There would be little potential to affect vegetation and habitat with no action. There would be only occasional visits to the structures for inspection and repair of measures that prevent weather or vandalism. Non-native naturalized plants are present in the lighthouse area that could continue to spread but the no action alternative related to historic structures would cause little change to vegetation

and habitat. Shrubs or trees that grow adjacent to building foundations would continue to be removed. On occasion staff have noted invasive plant species presumably brought in from visitors to the island via shoes and equipment near access points. Staff make note to treat them upon return to the island in order to prevent spread. Impacts to habitat and vegetation will be negligible.

Alternative B and D

Work to preserve all of the structures would increase visitation and trips across the island. Workers would be present around the structures more frequently and for longer periods of time. Their work would cause more foot traffic with the potential to trample vegetation to the point of killing it. However, this traffic would primarily be along discrete trails and limited in geographic area. An existing trail would mitigate this impact so long as workers use the predetermined path. The shallow rooted vegetation in a rocky substrate is more easily dislodged and disturbed than deep-rooted vegetation. Transport of materials and movement of workers around the island may cause more vegetation impacts. Nonnative plants that are already present would be more likely to spread. Every precaution, such as boot checks and machinery and tool cleaning, would be taken to prevent introduction of new invasive plants. As the buildings are preserved to a higher quality there may by an increase in visitation to the Lighthouse Island, which could negatively affect the vegetation if visitors create their own walking trails off the main path and bring in invasive species. There would be no overall gain in habitat since all buildings would remain. However, these impacts may be minor since the structures are already present. It is expected that there will be minor negative impacts in the short-term with long-term negligible impacts to habitat and vegetation with ongoing maintenance of structures and features. The impacts for alternative D would be very similar to Alternative B; however, there would be one less building for long-term maintenance on the northwest island, presumably reducing the amount of time spent and trips to that part of the island.

Alternative C

Removing selected structures would have a short-term impact on habitat and vegetation as tools and materials are transported to and from the structures across the island. These impacts would be similar to those described in Alternative B but would only occur during removal and not for ongoing preservation and maintenance. Removal of the buildings would result in a larger footprint of temporary habitat disturbance to complete the work. Native vegetation may replace nonnative in locations where structures are removed. Preservation and maintenance would be localized to directly around the lighthouse, as the other

buildings would be removed to the foundation. There would be a beneficial impact in the long term as habitat area is regained where buildings are removed, particularly on the northern side of the island. Removal of all or most infrastructure on the northern side would result in a continuous block of habitat from the interior of the island. Nonnative plants could be spread during demolition activities, but precautions can be taken to prevent the spread. As buildings are preserved near the lighthouse then visitation would likely increase there and be more limited on the northwest side of the island. This would result in more impacts that are negative to vegetation and habitat directly around the lighthouse and a decrease in habitat and vegetation impacts on the northwest side of the island. In total, there will be minor negative impacts in the short-term with long-term intermediate positive impacts to habitat and vegetation.

Wilderness

Description of Affected Resource

All of Huron National Wildlife Refuge is designated Wilderness. The only publicly accessible island is Lighthouse Island. Five characteristics (untrammeled, natural, undeveloped, solitude or primitive and unconfined recreation and "other features of value", such as cultural and historic) define wilderness. These qualities were further defined in the 2008 technical report, "Keeping it Wild: An Interagency Strategy to Monitor Trends in Wilderness Character Across the National Wilderness Preservation System" (Landres, et al, 2008). In 2015, the technical report was amended in the creation of "Keeping it Wild 2: An updated Interagency Strategy to Monitor Trends in Wilderness Character Across the National Wilderness Preservation System" (Landres, et al. 2015). Reference these documents for additional information on wilderness character.

The Light Station on Lighthouse Island was identified as an "Other Feature of Value" in the 2013 Huron Wilderness Report on Wilderness Character Monitoring and revised draft 2021 addendum. The 2021 revised report states, "It is considered a crucial and prominent part of the Huron Wilderness history. The lighthouse is constructed of locally mined granite rock while other buildings (Assistant Keepers Quarters, Privy, Oil House, Fog Signal Building and Barracks) are less architecturally unique and made of concrete, wood or brick materials. The locations and functions of the other buildings represent the components of the light station and the unique challenges of operating and living on a remote and isolated island. Having a sense of the fully operational light station and what life was like at the time is of historical value and a component of this wilderness' value" (Gants and Edwards 2021). The Lighthouse Island is the only wilderness island on the refuge open to the public to

partake in primitive and unconfined recreation. The natural features of the island being the only boreal forest in the Refuge System's Great Lakes Region is also unique. For additional information, reference the 2013 Wilderness Character Monitoring Report https://www.fws.gov/uploadedFiles/Huron_WCM_Report.pdf (Payne and Zweber 2013).

Impacts on Affected Resource

Under all alternatives, there will likely be degradation to the other features of value character as determined by wilderness monitor standards. The Wilderness Character Monitoring Update Summary states that any increase in the amount and severity of disturbances to the cultural resources on Lighthouse Island that result in the loss of historical value would degrade the other features quality. As examples, disturbances may include vandalism, construction, or damage from wildlife (Gants and Edwards 2021).

Alternative A

The Wilderness Act requires those areas designated as wilderness, such as the refuge, be monitored to make sure the characteristics that caused it to be designated as wilderness (i.e., its "wilderness character") are being preserved. Current wilderness character monitoring allows for the current level of management to occur on the buildings to preserve the "Other Features of Value" character (Payne and Zweber 2013). Actions that preserve the cultural resources of the buildings to a minimum cultural resource standard will have a minor positive impact on the "Other Features of Value" character as less vandalism would be able to occur and failing infrastructure would be repaired. In order to preserve the buildings through mothballing techniques staff will be required to use tools and resources to preserve the buildings. Refuge staff may disturb visitors in the short term through work on the island using any tools, resulting in a negative effect to the solitude wilderness quality. The action will also have a negligible negative impact to the undeveloped character, as the boathouse will be boarded with new material over a more long-term period. There would be no impact in replacing the materials boarding up other buildings under the undeveloped quality as they will still retain the primeval character of the buildings and meet period appropriate guidelines. The degree to which the undeveloped and solitude characteristics is impacted depends on the tools and materials used to take the action. Further detail on impacts of different tools, such as mechanical or non-mechanical, on these characteristics can be found in the 2019 minimum requirement analysis (U.S. Fish and Wildlife Service 2019).

Alternative B and D

The type of impacts under this alternative would be similar to Alternative A; however, the magnitude of the impact would be much greater. Actions that preserve the cultural resources of all buildings to a preserved standard will have an intermediate positive impact on the "Other Features of Value" character. This action would effectively maximize the other feature of value character to its fullest potential. The experience of the wilderness would be geared solely towards the "Other Features of Value" character. In order to preserve the cultural resources in place then preservation techniques would occur over a larger geographic area, over a longer time period and be more frequent thereby affecting the solitude characteristic in a minor negative way. There would be no impact in replacing the materials boarding up other buildings under the undeveloped quality as they will still retain the primeval character of the buildings and meet period appropriate guidelines. Additionally, the footprint or area with developments/facilities would remain the same size and not improve this quality beyond benchmark conditions as defined in the 2013 Wilderness Character Monitoring Report. Under this alternative, the impact to all resources is spread across a longer time increasing the frequency staff would be required to be on the island and subsequently disturbing visitors and natural resources.

The naturalness quality may also be negatively impacted under these alternatives as the buildings are preserved to a higher quality, which may increase visitation to the Lighthouse Island. An increase of visitation could have negative impacts to wilderness that could include more disturbance to wildlife, increase risk of manmade fires, and potentially introduce invasive species. The magnitude of this would pose greater risk under this alternative because it includes preserving cultural resources on the northwestern side end of the island. Monitoring of visitor use is an essential part of wilderness character monitoring and if visitation is required to be managed, a permit system could be put into place to mitigate potential impacts. Removal of the Barracks would not result in the addition of natural habitat so impacts would not occur as described in the Alternative C narrative to the natural quality. Alternative D would have comparable impacts except there would be one less building located in wilderness after the barracks are removed slightly reducing the intermediate positive impact to the other features of value. The rehabilitation and modification of the Boathouse does not substantially add or reduce the footprint of existing human developments within wilderness and will result in minor impacts to the developed quality. The rehabilitation is not considered a new structure in wilderness, but a repair to existing infrastructure important to the other features of value quality.

Alternative C

Through a previous analysis, it was determined that the demolition of some of the infrastructure has no negative effect on the other features of value quality because their value to telling the story of the history is preserved through documentation and made available via interpretive and educational materials (U.S. Fish and Wildlife Service 2019). The benefits to the other features of value characteristic would be minor in comparison to Alternative B and D; however, the impacts are still positive. There would be minor negative impacts to solitude in the short term as buildings were removed; however, there would be minor positive impacts to solitude in the long-term as maintenance of buildings would be isolated to one side of the island and would not be as frequent as Alternative B and D. The undeveloped quality would have greatest positive impact under this alternative, as there would be fewer structures in wilderness, even though the existing structures would be preserved in place. The naturalness quality would also have minor positive benefits under this alternative, as the northwestern side of the island would be allowed to become native habitat after the removal of buildings to the foundation. The northwestern side of the island would eventually be in complete natural habitat allowing for a more traditional wilderness experience in a natural habitat on that side of the island. Under this alternative the wilderness characteristics are more in balance with each other and no one value has more weight. Under this alternative, there also could be an increase in visitation with potential impacts as described in Alternative B and D. If needed, a permit system can be implemented to mitigate potential negative impacts from visitation in the long-term.

Visitor Use and Experience

Description of Affected Resource

The island is a locally well-known and popular destination spot for sightseeing, picnics and offshore fishing. The Comprehensive Conservation Plan guides public use on the refuge and the overarching goal related to people is mentioned in section 1.2. The approved compatible daytime uses on Lighthouse Island include wildlife observation, photography, environmental education and interpretation. There is no overnight camping, campfires or motorized vehicles allowed. All other refuge islands are closed to the public. Visitors can access Lighthouse Island using their own transportation to the concrete boat dock and wooden walkway on the southwest side of the island adjacent to the boathouse. There are no existing trails, beyond the historical earthen/concrete Pathway, that leads to the Lighthouse buildings and fog signal building. There are currently no other facilities available for visitors. Visitation at the time of wilderness designation was estimated to be 100

visits/year. In 2018, a trail counter was installed on the island just past the boathouse. Current annual visitation is estimated at 1,100 visits/year (Gants and Edwards 2021). Visitation is recorded on refuge trip reports and annually reported in the Wilderness Character Monitoring Reports. Visitors to the island most often arrive with a motor powered boat during summer and fall months.

Impacts on Affected Resource

Alternative A

The visitor experience would largely remain the same. However, structures are likely to further deteriorate over time causing a diminished view of the historical context of the structures and potential safety issues. Since the Boathouse would be boarded up, it would no longer be available to be used as a temporary shelter for visitors caught in storms or having mechanical problems as it had been in the past. Vandalism could become a larger issue if structures are not preserved or removed. Without a plan to preserve or demolish structures, there will be little opportunity for visitors to interpret or experience the overall historical significance of the light station. The lighthouse would remain as the primary preserved testament to the light station. There would be negligible impacts to visitation and visitor experience under this alternative.

Alternative B

Visitors would experience more structurally sound and safe structures. Appearance of the buildings may improve slightly but windows and doors will remain covered for all remaining structures. However, the remaining presence of all facilities may take away from the beauty and wildness of the island. Some infrastructure, particularly near the fog signal building is unsightly and difficult to maintain. Preservation of all structures would take many days during each summer season over many years. More presence of workers and tools would take away from the visitor experience on this remote island and ability for visitors to access the island during maintenance and preservation activities. Preservation of all structures may allow for more interpretive opportunity but is not likely to greatly increase visitors' understanding of the history of the light station. Placement of interpretive infrastructure such as signs is limited due to the wilderness designation. There would be negligible impacts to visitation and visitor experience under this alternative.

Alternative C

Preservation of selected structures will allow focus on the most important structures that can demonstrate the history of the light station to visitors.

Demolition of others will make for a safer environment for visitors and will enhance the experience of the beauty, wildness and remoteness of the island. There would be a short-term increase in workers but their presence would be less over the long term as less maintenance would be required. Recordation of demolished buildings would occur such that they could still be included in off-site interpretive information for visitors. Placement of interpretive infrastructure such as signs is limited due to the wilderness designation. Removal of select buildings would increase safety for visitors by removing potential contaminants and crumbling buildings. The management of the cultural resources under this alternative provides for a more holistic wilderness experience highlighting both the cultural and natural resources visitors expect to see. There would be minor positive impacts to visitation and visitor experience under this alternative.

Alternative D

Impacts to visitation under this alternative would be comparable to impacts described in Alternative C, as visitors will be able to experience all components of the light station from the historical period of significance. The removal of the barracks building and other site features that are hazardous will increase interpretation needs of what life was like on the island prior to the Coast Guard abandonment and increase visitor safety. Interpretation is being proposed as part of the modification through the rehabilitation process for the boathouse. The interpretation will be focused around the use of the island by Indian tribes and as an operational light station during the period of significance (1935-1961). Details of the interpretive material will be developed in the Memorandum of Agreement; however, the objective of this interpretation is to increase visitor understanding of the historical value of the island and awareness of the wilderness designation. Impacts to visitors and visitor experience would be negligible to minor positive under this alternative due to increases in interpretive abilities.

Cultural Resources

Description of Affected Resource

The history of human occupation on the islands is reflected on the landscape today. The Lighthouse was built on Lighthouse Island with granite mined from the island in 1868. The other six buildings were added on the island over time, with the last building finished in 1961. The current Dock was built in 2008. There are several other remnant site features associated with the light station including a small Tramway/Turntable, fuel storage tanks, components of infrastructure from island utilities, a Pathway with concrete footbridges and steps as well as a concrete Dock.

Through consultation with the State Historic Preservation Office as part of this environmental assessment, the Pathway and Tramway/Turntable have been determined eligible for listing on the National Register of Historic Places. No other site features, including the Dock, flagpole, and radio tower, are currently considered eligible. The Light Station, comprised of the lighthouse and six supporting buildings, has served as a navigational aid for thousands of ships charting the dangerous waters of Lake Superior for over 150 years. There are structures on each end of the island with a footpath between them. The Cultural Resources Management Plan in Chapters 2-4 (Appendix B) provides more detail about history and condition of each building.

A systematic cultural resources survey of Lighthouse Island has not been completed. It is possible that other cultural sites, especially of Native American origin, are present on the island. Under all alternatives, we will strive for no adverse effects to the structures. An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register of Historic Places in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Any work that is anticipated to cause an Adverse Effect will be resolved through a future Memorandum of Agreement (formal agreement) with consulting parties as outlined in Section 8.2 of the Cultural Resources Management Plan: Rehabilitation Treatment of Modified Historic Property. Adverse effects, as described by the National Historic Preservation Act, are identified below.

Impacts on Affected Resource

Alternative A

Status of the structures would remain the same as current conditions under this alternative. Currently, the exterior of the lighthouse is being preserved and its envelope is intact. The lighthouse is being protected from fires associated with lightning strikes by a lightning rod. The roof was fully replaced in 2006 and further fascia work is likely needed in the near future. Routine access to the interior is undertaken by the Service to inspect interior conditions and U.S. Coast Guard personnel to maintain the automated light.

Minimal stabilizing and mothballing techniques are being used on the exteriors of other structures such as plywood installed over windows and doors to prevent weather damage and vandalism. Due to safety and hazardous materials concerns, interior access to these structures is limited to Service personnel. Roof leaks are

repaired and shrubs and trees removed from around foundations. The Dock and Pathway to the structures are being maintained. These activities would continue. The Service is attempting to slow decay for as long as possible and prevent the buildings from getting to the state of no repair or stabilization. Other than the lighthouse, no improvements up to preservation treatment standards are being applied. Any action or benign neglect of the historic properties could lead to an Adverse Effect determination that would need to be resolved. Currently, neglect is occurring under this alternative. As described in the future actions, neglect would no longer occur since buildings would at least be protected from the elements and no longer trigger an adverse effect.

An Adverse Effect to an historic property is resolved through a formal agreement between the federal agency and any consulting parties including, possibly, the Advisory Council on Historic Preservation. In this instance, a formal agreement would likely be negotiated and signed between the Service, the Michigan State Historic Preservation Office, the Huron Island Lighthouse Preservation Association, the Keweenaw Bay Indian Community, and possibly the Advisory Council. Other signatories or interested parties may be identified during the formal agreement consultation process. Those individuals and organizations that offered their expertise or assistance during the public comment period may be contacted to participate in this process if appropriate. The Service is solely responsible to see that the stipulations in the formal agreement are fully carried out and that Section 106 compliance is completed.

Alternative B

In this alternative, all National Register of Historic Places listed or eligible structures (Lighthouse, Assistant Keepers Quarters, Privy, Oil House, Boat House, Fog Signal Building and Barracks) would be maintained to meet preservation treatment standards as laid out by the Secretary of the Interior's Treatments for Historic Properties (National Park Service 2017). Interior of buildings would be inspected and stabilized more regularly. Exterior work to maintain the historic fabric may include new or repaired siding, windows, roofs, etc. The Dock, while not eligible for the National Register of Historic Places, would also be maintained, as it is necessary for access. Additionally, other remnant site features associated with the Light Station including a small Tramway/Turntable, fuel storage tanks, components of infrastructure from island utilities (phone, sewer and electric), a Pathway with concrete footbridges and steps as well as a concrete Dock will be preserved. Impacts to cultural resources is considered minor positive as resources are preserved in place. No adverse effects would occur under this alternative.

Alternative C

The National Register of Historic Places listed Huron Islands Lighthouse and associated eligible structures as the Privy, Oil House and Assistant Keepers Quarters, together these make the total Light Station. These would all be preserved to Secretary of the Interior treatment standards (National Park Service 2017). The Dock, while not eligible for the National Register of Historic Places, and Pathway, now eligible, will also be maintained as an access route to structures and across the island. The Barracks, Fog Signal Building, and Boathouse, National Register of Historic Places eligible structures, would be demolished and removed from the island. Demolition/ Removal of these structures constitutes an Adverse Effect under the National Historic Preservation Act law that would require resolution through a Memorandum of Agreement with the State Historic Preservation Office and other consulting parties. The other site features associated with the Fog Signal Building site are not eligible for the National Register of Historic Places and will also be demolished and removed. Selective removal of structures and infrastructure will enhance the ability to preserve the remaining buildings appropriately, enhance wilderness character, and heighten visitor and staff experience and safety. There are no adverse effects to the structures being preserved under this alternative (Huron Islands Lighthouse, Privy, Oil House and Assistant Keepers Quarters) with this alternative. Impacts to cultural resources is considered to be minor positive as resources are preserved in place and the historic value of the demolished resources is captured by alternative means such as interpretation and environmental education.

Alternative D

Impacts would be similar to those described in Alternative C; however, there would only be an adverse effect from the removal of the Barracks and modified rehabilitation of the boathouse. The process to mitigate the adverse effects would be the same under Alternative B and C; however, mitigation under this alternative includes increased opportunity for interpretation on site through the rehabilitation of the boathouse building. This increases the positive impact to cultural resources slightly; however, the impacts are still minor positive in nature.

Refuge Management and Operations

Description of Affected Resource

Staff located at Seney National Wildlife Refuge in Seney, Michigan, manage Huron National Wildlife Refuge. Lighthouse Island is three hours from the Seney Refuge Headquarters by land to the Big Bay boat launch and then a one-hour boat ride

from there. For management activities, the island can only be visited during spring to fall when weather conditions allow. Boat trips can often be cancelled due to fog, winds, or other weather that make travel and docking unsafe. Staff visit once or twice a year to inspect the island and associated structures. If subsequent work is identified then there may be additional trips. Bringing supplies and equipment to the island is logistically challenging and can require multiple trips or other vessels that the refuge does not have available. There is no specific budget for Huron National Wildlife Refuge; funds for management come out of the Seney National Wildlife Refuge budget. Funding available for projects fluctuates on an annual basis and is dependent on priorities of the station management. Little active habitat or wildlife management occurs on the island, as it is wilderness, which is typically managed passively. In places where invasive plant species have been, recorded staff have actively eradicated them through hand pulling. Monitoring of the island is done on an annual basis as described in the 2013 and 2021 Wilderness Character Monitoring Report. Included in this section is a cost and benefit comparison between the alternatives. This information is included because of comments received during the public comment period. Exact costs of each alternative are not included, but described in general long-term maintenance cost and one-time expenditures. Cost estimates are informed by facility condition assessments completed for maintenance purposes for the structures.

Impacts on Affected Resources

Alternative A

Refuge operations would largely remain unchanged in the long term and require occasional visits to the island in order take protective measures to repair all structures. In the short turn, several projects will still need to be completed to protect structures with terminal failures. The structural integrity of the Boathouse is compromised and will need stabilized, the Assistant Keepers Quarters wood siding is deteriorated and will need repainted and patched, and the roofs of the Fog Signal Building, Privy and Barracks will need patched. However, these materials have all reached their life expectancy and will need replaced in order to meet stabilization requirements. Until this is done, refuge management has already experienced an increase in structural failures and staff time and need for additional resources would continue to increase. Cost of this alternative would be slightly less or similar to Alternative B as there are additional costs required completing this alternative for long-term management. However, in the short term, temporary stabilization measures may be less expensive than permanent replacement materials that meet preservation standards. This alternative would not forward the

Comprehensive Conservation Plan objectives to determine which structures to ultimately remove and retain as well as objectives related to people. This alternative would likely not result in any changes to the current historical information available for interpretation of the site for visitors.

Alternative B and D

Under both Alternative B and D, additional staff time and resources would be required in order to properly preserve and rehabilitate cultural resources. Additional staff time would be spent on physical activities aimed to preserve and protect resources, completing additional compliance as necessary and working with partners. In the case of Alternative D, additional staff time and funding would be required on the short term to remove all nonessential other features of value and the Barracks with a slight decrease in the long-term maintenance requirements after removal of these features. Staff would still be required to maintain resources on both sides of the island in both alternatives and an increase in time would be required to complete that work on an annual basis, resulting in trips that are more frequent to the island. Additional staff time will be required to maintain partnership and work with contractors in addition to potentially apply for grants to address cultural resource management needs. Additional outreach to the public and partners may also be needed to prevent conflicts as work is conducted on the structures.

More preservation work on the Fog Signal Building and Barracks, in particular, would have many logistical challenges. Materials would need to be transported from the Dock across the island to this site. Under Alternative D, this would require a more short-term impact as the Barracks would be removed and not require long-term maintenance. To reduce this logistical concern there is a potential that staff could use the northwestern side of the island that once had a Dock and use the Tramway/Turntable (once preserved) for transporting material. Preservation of the Fog Signal Building and Barracks in particular would take a great deal more resources than currently available. No other changes to refuge management are anticipated with either alternative. Under both alternatives, the Service will rely heavily on partnerships as well as the Memorandum of Agreement in order to accomplish preservation activities in the preferred alternative.

Impacts on refuge management and operations under this alternative would likely have long-term negative impacts, as there currently is not sufficient staff availability to work on these resources. Prioritizing historic structure work would affect the ability to complete other important refuge management activities. The costs associated with stabilization or preservation and removal of buildings is

comparative in the short-term. However, costs are higher under the long-term for preservation as there are continued maintenance costs as opposed to removal of buildings that would not require long-term maintenance cost after they are physically gone. The costs of these alternatives are comparable, even with the reduction of long-term maintenance costs for the barracks building removal as those cost savings are balanced by the increased cost to complete modified rehabilitation on the Boathouse.

There is an increased benefit for retaining buildings in place as many individuals expressed a value for the sense of place tied to the physical presence of the light station resources. There would also be a benefit to those that place value on preserving wilderness qualities. The Wilderness Act itself suggests wilderness is valuable given its "ecological, geological, or other features of scientific, educational, scenic, or historical/cultural value". The loss of the barrack building may decrease the benefit of connection to place for individuals that have a connection the barracks through family history or personal relationships, however, there still remains an intermediate positive benefit from preserving the remaining buildings. The mitigation that will be required for removing the barracks and modifying the boathouse will likely result in positive improvements to interpretive materials for the site and more readily available to offsite visitors. Both alternatives result in an intermediate positive benefit, but result in a minor negative cost.

Alternative C

Removal of selected structures would relieve long-term maintenance and fiscal requirements, however short term it would require a lot of staff time and resources. Focusing on preserving structures in only the Lighthouse location would make logistics somewhat easier and take less refuge resources in the long-term compared to Alternative B and D. There would be fewer trips across the island in general for maintenance and likely fewer trips to the island in general as there would less of a maintenance need. The refuge could do a more comprehensive job of maintaining the structures at the lighthouse location without also managing the structures across the island. Impacts on refuge management and operations under this alternative would have potentially long-term negligible impacts, as the long-term management would be similar to Alternative A. Short-term impacts for removal of some buildings would require an increase in the staff time and budget; however, it is a minor negative impact. The loss of the physical buildings on the northwest side of the island would greatly diminish the sense of place as well as the wilderness value thereby reducing the cost benefit. The wilderness value comes from protecting the qualities of wilderness. Under this alternative, the island would

be managed with more traditional wilderness values of leaving the land untouched by man through removing man's imprint on the land. However, the cultural value would be lost so the cost benefit under this alternative from an intrinsic value perspective becomes more of an intermediate negative impact. Overall, the gains provided from a cost savings perspective with reduced long-term maintenance of cultural resources under this alternative are outweighed by the potential negative cost of losing these beneficial values.

Socioeconomics

Description of Affected Resource

Huron National Wildlife Refuge is in a relatively remote and rural area in Lake Superior. The nearest counties are Baraga and Marquette Counties in Michigan. Baraga County has a population estimate of 8,209 people as of July 1, 2019. Of that population, minority populations represent approximately seventeen percent of which are people of American Indian or Alaska Native only. The medium household income between 2014 and 2018 was $42,444 and approximately 15% of persons in the county are in poverty. Marquette County has a population estimate of 66,699 people as of July 1, 2019. Of that population, minority populations represent approximately eight percent. The medium household income from 2014 to 2018 was $50,771 and approximately 14% of persons in the county are in poverty. The largest city nearby is Marquette, Michigan with a population of about 20,680 as of 2018 (U.S. Census Bureau 2020). Other smaller towns near the refuge are L'Anse and Baraga.

Tourism is a primary industry in the Upper Peninsula of Michigan with both summer and winter attractions. Most tourism occurs in the summer months. In 2017, the Upper Peninsula was recognized as one of the world's "10 Best Value Destinations" in the "Best in Travel 2017 Yearbook" developed by Lonely Planet (Grinnell, 2016). Huron National Wildlife Refuge is visited during the summer by boaters and lighthouse enthusiasts. Other lighthouses in the area are also visited. Pictured Rocks National Lakeshore is nearby and receives nearly 500,000 visitors and in 2018, it saw more than 800,000 visitors (Bingham, 2019). Forestry and mining are also large industries in the area.

The L'Anse Indian Reservation, the land base of the Keweenaw Bay Indian Community is located in these counties and is the oldest and largest reservation in Michigan. It was established under the treaty of 1854. Keweenaw Bay Indian Community is one of the four original member tribes in Michigan that founded the

Inter-Tribal Council of Michigan, Inc. in 1966; they are still a member tribe today (Inter-tribal Council of Michigan 2012).

Impacts on Affected Resource

Alternative A

There would be no change to refuge effects on the local economy. The condition of the structures would remain the same. Tourism may increase slightly in the overall area independent of any actions by the refuge. However, it is unlikely visitors to the island will greatly increase due to the logistical challenges of boat access. There would be negligible impact to the local or regional economy under this alternative.

Alternative B and D

Preservation of all of the structures may provide more input to the local economy due to purchase of materials and contracts to complete work. However, the work would be gradual and seasonal and likely have a negligible impact. This is the same under Alternative D, except there would be a short-term cost for removal and modified rehabilitation efforts that would result in more expenditures in the local economy. The one-time cost of removal and rehabilitation does not change the negligible impact to the local economies. Tourism may increase slightly in the overall area independent of any actions by the refuge. Interest in the history of the site could increase but preservation work is only to prevent damage and deterioration of the buildings, which would not increase any tourism opportunities such as tours of the structures. All structures would remain closed; however, there may be a slight increase in the number of visitors interested in seeing a fully preserved Light Station. The impacts from a minor potential increase in visitors is not likely to have any significant impact to ecotourism and impacts will likely be negligible.

Alternative C

There may be a short-term input to the local economy as structures are removed and preserved. Contractors would likely be used to demolish and remove structures. However, once buildings are demolished then the remaining structures would look similar to present condition with some increased work to prevent decay. Tourism may increase slightly in the overall area independent of any actions by the refuge. However, it is unlikely visitors to the island will greatly increase due to the logistical challenges of boat access. There will likely be more visitation as people become more familiar with the islands through outreach by partners. Wilderness enthusiasts may find the island more attractive once structures are removed, however a minor potential increase in visitors is not likely to have any

significant impact to ecotourism and impacts will likely be negligible. If the number of visitors using the Lighthouse Island becomes a wilderness issue then a permit system can be developed to limit impacts from visitation. At this time, it is not necessary to implement a permit system.

Environmental Justice

Description of Affected Resource

Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low- Income Populations, requires all Federal agencies to incorporate environmental justice into their missions by identifying and addressing disproportionately high or adverse human health or environmental effects of their programs and policies on minorities and low-income populations and communities.

Impacts on Affected Resource

The Service has not identified any potential high and adverse environmental or human health impacts from this proposed action of any of the alternatives. Although minority and low-income communities reside within the two counties directly adjacent to the refuge, these communities will not be disproportionately affected by any impacts from this proposed action under any of the alternatives.

Cumulative Impacts

Cumulative impacts are defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions" (40 CFR 1508.7).

Past, Present or Reasonably Foreseeable Actions for Cultural Resource Management in Local Area or Regional Area

Description and Impacts on Affected Resource(s)

Lighthouses span across Lake Superior and are managed by many different agencies and organizations. Granite Island lighthouse, 12.5 miles north of Marquette, Michigan is one that closely resembles Huron Island Lighthouse. In fact, it was built at the same time as the Huron Island Lighthouse, with granite from Huron Island, using the same plans. Today, Granite Island lighthouse and associated light station features, owned by a private citizen, has been restored to historic accuracy. This process took two and a half summers and a company in Covington, MI completed most of the work (Lighthouse Friends 2020). Individuals provided additional historical context during the public comment period that

highlighted how rare it was to have the Fog Signal Building and Tramway/Turntable intact, this information has been incorporated in the Cultural Resources Management plan, and response to comment found in Appendix C.

Cumulative Impacts from Proposed Action and Alternatives

The proposed action would have minor impacts on other cultural resources locally on the island or regionally within the Lake Superior region. Actions to preserve cultural resources on the island will not have cumulative impacts on cultural resources locally as the actions are being put into place to mitigate any adverse effects on cultural resources and the intent is to manage them for a ten to fifteen year period under the Cultural Resources Management Plan. Actions that take place on the island to preserve cultural resources could potentially affect the way other historic lighthouses are preserved in Lake Superior as other lighthouse managers evaluate preservation techniques; however, those actions are outside the scope of this project and are unknown.

Removal of proposed structures (Barracks and other site features that pose hazards) and modified rehabilitation of the Boathouse under the preferred alternative will not cumulatively impact the maritime history in the area as there are examples of those resources elsewhere in Lake Superior. Under this alternative, the adverse effects of removing the Barracks will require mitigation. One method to mitigate the adverse effects is through interpretation. Interpretation can occur on site through signage so long as it is the minimum required tool for wilderness considerations, on the internet to make it more accessible to everyone interested in learning about the maritime history, or through partnerships. The Maritime Museum in Marquette, Michigan whose mission is to preserve, protect and promote the maritime history of Marquette, Lake Superior and the Great Lakes and to remember the sacrifices of our submarine veterans, can tell the story of resources that are not physically on the island. Past actions to preserve lighthouses such as Granite Island may inform methods used to preserve the Lighthouse Island light station. However, the impacts from Granite Island lighthouse preservation are likely negligible when combined with preservation as described in any alternative in this analysis.

Past, Present or Reasonably Foreseeable Actions for Wilderness in Local Area or Regional Area

Description and Impacts on Affected Resource(s)

The U.S. Forest Service, U.S National Park Service, U.S. Fish and Wildlife Service and the Bureau of Land Management steward just over 111 million acres of federally

designated wilderness areas for all Americans to enjoy. In the state of Michigan there are 16 wilderness units totally 291,308 acres equating to approximately 1% of the National Wilderness Preservation System. Each wilderness area is unique in what it preserves, especially when it comes to other features of value character. In Michigan, four wilderness areas preserve islands in Lake Huron or Lake Superior (Wilderness Connect 2021).

Cumulative Impacts from Proposed Action and Alternatives

The proposed action would have negligible cumulative impacts on other wilderness resources in Michigan or the National Wilderness Preservation System. Of the hundreds of wilderness areas that Congress has designated many are rich in cultural resources and may be among the most important reasons for designating the area as wilderness. The historical value of wilderness has been interpreted as the use of the lands and not necessarily in the remnants left behind. However, the presence of cultural resources contributes to the outstanding primitive recreation of these wilderness areas. Each wilderness is stewarded to meet their unique characteristics, but guided uniformly by the interpretation of how the minimum required tools are applied. In this case, how cultural resources are steward could potentially affect the way other wilderness areas with physical cultural resources in place are preserved in the National Wilderness Preservation System; however, those actions are outside the scope of this project and are unknown.

Past, Present or Reasonably Foreseeable Action for Climate Change

Description and Impacts on Affected Resource(s)

Warming, whether it results from anthropogenic or natural sources, is expected to affect a variety of natural processes and associated resources. The complexity of ecological systems means that there is a tremendous amount of uncertainty about the impact climate change will actually have. In particular, the localized effects of climate change are still a matter of much debate.

Lake Superior is a unique natural resource that supports an abundance of aquatic communities whose ecological health is vulnerable to changing climatic conditions. The Lake Superior basin hosts a number of natural resources and protected areas that support native plant and animal species and may be sensitive to changing climate conditions. Of specific note for Huron National Wildlife Refuge is that climate change and warmer temperatures may restrict the distribution of some forest species and lead to a reduction in boreal transition forests currently on the refuge (U.S. Fish and Wildlife Service 2015). Additionally, climate change models

project the frequency of severe weather to increase (National Oceanic and Atmospheric Administration 2019). An increase in frequent storms could affect the way in which the buildings are impacted depending on the frequency and intensity of storms. Current lake levels are high and climate change predictions vary on impacts to lake levels. It can be expected that more rapid transitions between extremely low and high lake levels will occur (Gronewold and Rood 2019).

Cumulative Impacts from Proposed Action and Alternatives

While impacts from climate change are outside of management control, it represents a threat to an environment that is otherwise relatively free from other human actions. As part of the Wilderness Character Monitoring, the refuge is currently monitoring boreal forest composition to understand potential future impacts from climate change. Lake levels have not affected the refuge access to the island as the dock can still be accessed during lower or higher lake levels. The extreme conditions that occur during storms, wind events and drought can pose higher risks to cultural resource damages on the island. These type of events can cause materials to become dislodged, cause wildfires from lightning strikes, and/or possibly cause features to collapse or fall over (weak walls, trees, etc.). Roof shingles commonly blow off the buildings on the island. Climate change could affect the frequency at which staff will have to visit the island and repair buildings under any alternative. However, improved preservation actions such as replacing roofs may give longer time periods where less maintenance is needed. The actions in all alternatives will not further contribute to the cumulative impacts of climate change. Under the proposed action and all of the alternatives, the refuge would use an adaptive management approach for its cultural resource management program. The Service's cultural resource management program can be adjusted to ensure that it does not contribute further to the cumulative impacts of climate change.

Monitoring

Wilderness character monitoring as described in the 2013 Huron Wilderness Report on Wilderness Character Monitoring (Payne and Zweber 2013) and 2021 Update to Huron Wilderness Character Monitoring Report (Gants and Edwards 2021) is completed on an annual basis. This monitoring measures the condition status (Good, Fair, Poor, No Longer Eligible) of the cultural resources, or more specifically, the Light Station at Lighthouse Island. For purposes of the Wilderness Act of 1964, any change in condition would be considered significant. This monitoring occurs under every alternative described in this environmental assessment and is required per the Wilderness Act and Service Policy. Evaluation of the cultural resources is done as part of this monitoring and visits to the island will ensure there will be no

adverse impacts on the wilderness characteristics that include the natural and cultural resources on the island.

Additionally, the refuge will monitor the actions that take place to manage the cultural resources under any of the potential alternatives to not further impact the human or natural environment beyond what has been described in this analysis. Every trip that is made to the island requires an island trip report be completed with details about any changes on the island.

Summary of Analysis

The purpose of this Environmental Assessment is to provide sufficient evidence and analysis for determining whether to prepare an Environmental Impact Statement or a Finding of No Significant Impact.

Alternative A – No Action Alternative

Actions to stabilize and mothball the historical structures would remain the same as currently being applied to the Lighthouse Island cultural resources. These actions are meant to prevent impacts from weather and vandalism. If actively applied to prevent benign neglect, there would be no adverse effects to the structures as the refuge would discontinue neglect of buildings and shore them up for protection. Refuge management and resource needs would slightly increase in comparison to what is currently being applied at the time of writing this environmental assessment. Wilderness character would not improve or be negatively impacted. The visitor experience would remain largely the same. There would be negligible impacts to wildlife and vegetation as impacts are limited mostly to temporary disturbance. This alternative would result in lower costs compared to the other alternatives; however, it would result in a minor negative impact to monetary and nonmonetary benefits. Overall, there would be negligible impact to the human environment under this alternative. This alternative would meet the purpose and need as described under this alternative as it would meet the legal requirements, however it does not fulfill meeting the refuge purpose as described in the Comprehensive Conservation Plan.

Alternative B – Preserve all Action Alternative

Actions to preserve all historic structures in place would require a substantial increase in refuge management and operations. Pursuant to the Wilderness Act of 1964, all wilderness characteristics (undeveloped, natural, untrammeled, solitude or primitive and unconfined recreation, and “other features of value”) are supposed to be equal in consideration when evaluating alternatives for action in wilderness.

Under this alternative emphasis is put on the “other features of value” characteristic while other values such as naturalness are discounted. Although this is not a violation of the Wilderness Act, it goes against the intention of preserving all the characteristics of wilderness. Increased maintenance could have minor negative impacts to wildlife due to more increase in disturbance; however, there is a minor positive impact to monetary and nonmonetary cost benefits. There would be no potential to improve the natural status of the northwestern side of the island; however, there would likely be negligible impacts to vegetation and habitat under this alternative. There would be no adverse effects on cultural resources under this alternative. This alternative also meets the purpose and needs of the Service as described above, because it would provide for no adverse effects to cultural resources and meet other legal requirements. However, it will take more time, resources and staff to accomplish this alternative. It also does not balance the refuge purpose or preserve wilderness character in a balanced approach.

Alternative C – Previously Preferred Action Alternative (remove Boathouse, Fog Signal Building, Barracks, site features and preserve in place all other buildings)

This alternative would improve wilderness character in a more balanced approach, provide a safe visitor experience and reduce refuge management needs. Removal of these structures constitutes an adverse effect that would require resolution through a Memorandum of Agreement with the State Historic Preservation Office and other consulting parties. The other site features associated with the Fog Signal Building site, except the Tramway/Turntable and Pathway, are not eligible for the National Register of Historic Places and will be removed. After preservation of buildings proposed for removal, through alternative methods such as interpretation and education, the adverse effects to these structures will be mitigated with this alternative. Selective removal of structures and infrastructure will enhance the ability to preserve the remaining buildings appropriately, enhance wilderness character and heighten visitor and staff experience and safety. The lighthouse station will be preserved on the eastern side of the island while the northwestern part of the island will be restored to a more natural state promoting a more balanced experience of the other features of value, solitude, naturalness and undeveloped characteristics of the wilderness on this island. The part of the island where buildings are being removed will be allowed to ‘re-wild’ and return to a natural habitat type except for the concrete foundation areas. This will likely result in a small benefit for wildlife and provide a larger area of boreal forest on the island

in the long-term. After removal of buildings, staff will be better able to manage existing cultural resources, as the cultural resources will be concentrated in one area.

This alternative meets the purpose and need of this proposed action as it optimizes the balance needed to meet refuge purposes, National Historic Preservation Act and Wilderness requirements. Additionally, this alternative is achievable given staff time and resources. However, given new information provided by experts during the public comment period and after consultation with the state historic preservation office it was determined that this alternative does not best meet the need to manage cultural resources. The fog signal building and the tramway/turntable should be preserved in place, as they are some of the last remaining physical examples of these cultural resources in Lake Superior. Although wilderness characteristics are more balanced on the island concerning this alternative, in looking at the full scope of the Huron Wilderness there are six other islands that feature the naturalness quality and provide quality habitat. Even though the other islands are not open for the public to find solitude, visitors can experience the naturalness quality from Lighthouse Island by viewing the other islands and the vastness of Lake Superior. Furthermore, considering the costs and benefits of this alternative, overall the gains provided from a cost savings perspective do not outweigh the benefits.

Alternative D – Preferred Action Alternative (remove Barracks and hazardous site features, modified rehabilitation of Boathouse and preserve in place all other buildings and Pathway, Tramway/Turntable)

Actions to preserve all but one historic structure in place would require a substantial increase in refuge management and operations. However, this increase in refuge management and operations can be addressed through the Memorandum of Agreement. This alternative results in an intermediate positive cost benefit considering intrinsic values, however results in minor negative costs. Under this alternative emphasis is put on the “other features of value” wilderness characteristic while other values such as naturalness are discounted like in Alternative A. Although this is not a violation of the Wilderness Act, it goes against the intention of preserving all the characteristics of wilderness. However, as a commenter noted, other islands are managed in a more natural state and the island would still have natural qualities. The Service will have to ensure it does not affect

the undeveloped characteristic in rehabilitation efforts by staying within the same footprint and repairing what can be repaired of the Boathouse.

Increased maintenance could have minor negative impacts to wildlife due to more increase in disturbance that would occur on both sides of the island. There would be no potential to improve the natural status of the northwestern side of the island beyond removal of the Barracks to the foundation; however, there would likely be negligible impacts to vegetation and habitat under this alternative. Under this, alternative there would be adverse effects to cultural resources, however they can be mitigated as described in Alternative C. The preferred alternative best meets the purpose and need of this environmental assessment as it optimizes the balance needed to meet refuge purposes, National Historic Preservation Act and Wilderness requirements. Additionally, this alternative is achievable given staff time and resources with the help of partners as to be determined in the Memorandum of Agreement. The process of cultural resources management will occur over 15-20 years as described in the Cultural Resources Management Plan dependent on annual allocated funding and resources. If circumstances change or after the lifetime of the plan, evaluation of future management will occur to meet the objectives of the plan, future budget and partnership agreements.

List of Sources, Agencies and Persons Consulted

- Keweenaw Bay Indian Community: Jeffery Loman, Tribal Counsel Refuge Liaison; Evelyn Ravindran, Natural Resources Director
- Huron Island Lighthouse Preservation Association: Burt Mason, President; Jeffery Loman Trustee
- Michigan State Historic Preservation Office: Bryan Lijewski, Architect
- U.S. Fish and Wildlife Service Staff: Nancy Roeper, National Wilderness Coordinator; Garrett Peterson, Intergovernmental Liaison; Jeanne Holler, Chief of Conservation Planning; Carl Millegan, Deputy Regional Refuge Chief; Suzanne Baird, Regional Refuge Chief
- Structural Engineer Company: Sanders & Czapski Associates, PLLC

List of Preparers

- Kristin Rasmussen, Conservation Planner
- Sara Siekierski, Huron National Wildlife Refuge Manager
- James Myster, Regional Historic Preservation Officer
- Cathy Nigg, Area Supervisor

State Coordination

The State Historic Preservation Office was contacted during the public scoping period and the public comment period for review of the final Cultural Resources Management Plan and this environmental assessment. Implementation will be a joint effort in which the Michigan State Historic Preservation Office must concur. They review all adverse effects to cultural resources. Any action put forth in this environmental assessment and the Cultural Resources Management Plan must meet Section 106 requirements of the National Historic Preservation Act. To meet these requirements consultation with required parties occurred during the Environmental Assessment process. Because of additional comments provided by the public and the State Historic Preservation Office and in light of additional information gathered, the Service changed their preferred alternative to preserve more buildings in place and consider the Pathway and Tramway/Turntable eligible for the National Register of Historic Places. A final determination on an action cannot occur without completion of the Section 106 process. For additional information about the comments received and the Service's response, see Appendix C.

Tribal Consultation

Insights about the local perception on the condition of the refuge structures came from tribal consultation initiated by Keweenaw Bay Indian Community in April of 2018. Since that time, refuge management has routinely communicated with the tribe about the island conditions and future planning. During the public scoping period for this environmental assessment the Keweenaw Bay Indian Community sent a letter and suggestions as proposed in the letter have been incorporated as appropriate. The Keweenaw Bay Indian Community also provided the Service with an additional letter during the public comment period that supported prioritizing work for cultural resource management and incorporating tribal history into future interpretation material. The tribe was also briefed on the Service's new preferred alternative and additional information that was provided during the public comment period in order to address questions the Advisory Council on Historic Preservation had about consulting parties' involvement in order to determine whether their participation in the consultation to resolve adverse effects is warranted. The Michigan State Historic Preservation Office and the Huron Island Lighthouse Preservation Association were also briefed and asked to provide additional comments because of this request.

Public Outreach

Management of the Huron National Wildlife Refuge has a long history of involving the public dating back to the development of the Comprehensive Conservation Plan and before. Specific to management of cultural resources on Lighthouse Island, informal information gathering began in 2015 with new Service personnel. In 2016, information was shared with Huron Island Lighthouse Preservation Association board members meeting to review the status and interest in pursuing future collaboration efforts. Since that time, Service staff have traveled to the L'Anse/Baraga/Big Bay region on numerous occasions and engaged a variety of people about their perspective on the refuge.

To help shape the Cultural Resources Management Plan, identify issues for this environmental assessment, and provide opportunities for everyone to be a part of the process, a public scoping effort began on December 2, 2019 for 30 days. The Keweenaw Bay Indian Community was granted an additional 30 days to comment upon their request. A press release and information document was developed for the public and provided on the refuge website, local media outlets and to interested parties. The local newspaper, The Mining Journal, published a story on Monday December 16, 2019 regarding the effort. Local TV 3 WJMN covered the story on December 18, 2019. Information was also posted on the Seney National Wildlife Refuge Facebook page twice, where it had 83 likes and 12 shares on December 4, 2019 and 82 likes and 8 shares on December 18, 2019.

Eight entities provided comments to the Refuge Manager. As would be expected, there were a variety of recommendations for how to best manage Huron Island Lighthouse and the other buildings on Lighthouse Island. They ranged from suggestions to preserve all buildings, to only keeping a select few. Overall, there was a slight favor to preserve only a select few.

The Draft Environmental Assessment and associated Draft Cultural Resources Management Plan were made available for a 45-day comment period. The draft documents were available online at the refuge website. All comments received during this public comment period have been incorporated into the Final Environmental Assessment and Final Cultural Resources Management Plan as appropriate. See Appendix C for a summary of comments and response to comments. Any action put forth in this Final Environmental Assessment and the Cultural Resources Management Plan must meet Section 106 requirements of the National Historic Preservation Act. To meet these requirements consultation with required parties occurred during the Environmental Assessment process. A final

determination on action cannot occur without completion of the Section 106 process.

References

Bingham, E. 2019.Pictured Rocs set a new visitors record in 2018. Advance Local Media LLC. News article. Accessed April 2020. Available from: https://www.mlive.com/life/2019/03/pictured-rocks-set-a-new-visitors-record-in-2018.html

Corin, C.W. 1976. The land vertebrates of the Huron Islands, Lake Superior. The Jack-Pine Warbler 54:138-147.

Gants, M and Edwards, M. 2021 DRAFT Huron NWR Wilderness Character Monitoring Summary Addendum. Internal draft.

Grinnell, M. 2019. Upper Peninsula Among Top Value Destinations in World. Michigan Economic Development Corporation. Press Release. Accessed April 2020. Available from: https://www.michigan.org/pressreleases/upper-peninsula-among-top-value-destinations-in-world

Gronewold, D. Rood, R.B., and The Conversation U.S. 2019, June 8. Climate Change Sends Great Lakes Water Levels Seesawing. Article. The Conversation Scientific American. Accessed March 2020. Available online from: https://www.scientificamerican.com/article/climate-change-sends-great-lakes-water-levels-seesawing/.

Inter-Tribal Council of Michigan, Inc. 2012. Keweenaw Bay Indian Community. Webpage. Accessed March 2020. Available from: http://www.itcmi.org/keweenaw-bay-indian-community/

Landres, Peter; Barns, Chris; Dennis, John G.; Devine, Tim; Geissler, Paul; McCasland, Curtis S.; Merigliano, Linda; Seastrand, Justin; Swain, Ralph. 2008. Keeping it wild: an interagency strategy to monitor trends in wilderness character across the National Wilderness Preservation System. Gen. Tech. Rep. RMRS-GTR-212. Fort Collins, CO: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. Accessed March 2020. Available online from: https://www.fs.usda.gov/treesearch/pubs/30394

Landres, Peter; Barns, Chris; Boutcher, Steve; Devine, Tim; Dratch, Peter; Lindholm, Adrienne; Merigliano, Linda; Roeper, Nancy; Simpson, Emily. 2015. Keeping it wild 2: An updated interagency strategy to monitor trends in wilderness character across the National Wilderness Preservation System. Gen. Tech. Rep. RMRS-GTR-340. Fort Collins, CO:

U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station. Accessed March 2020. Available online from: https://www.fs.usda.gov/treesearch/pubs/49721

Lighthouse Friends. 2020. Website. Granite Island Lighthouse. Accessed March 2020. Available from: https://www.lighthousefriends.com/light.asp?ID=727.

Michigan State University Extension. 2020. Website. County Element Data. Accessed April 2020. Available from: https://mnfi.anr.msu.edu/resources/county-element-data.

National Oceanic and Atmospheric Administration. 2019. Website. U.S. Climate Resilience Toolkit: Great Lakes Region. Accessed March 2020. Available from: https://toolkit.climate.gov/regions/great-lakes.

National Park Service. 2017. Website. Archeology and historic preservation: Secretary of the Interior's Standards and Guidelines [As Amended and Annotated]. Accessed March 2020. Available from: https://www.nps.gov/history/local-law/arch_stnds_0.htm

Payne, C. and S. Zweber. 2013. Huron Islands Wilderness: a report on Wilderness character monitoring. US Fish and Wildlife Service, Midwest Region, Minneapolis, MN. Accessed March 2020. Available online from: https://ecos.fws.gov/ServCat/DownloadFile/23071

U.S. Census Bureau. 2020. Website. Quickfacts: Marquette City, Michigan; Baraga County, Michigan; Marquette County, Michigan. Accessed April 1, 2020. Available from: https://www.census.gov/quickfacts/fact/table/marquettecitymichigan,baragacountymichigan,marquettecountymichigan/LFE305218

U.S. Fish and Wildlife Service (Service). 2015. Habitat Management Plan For Harbor Island National Wildlife Refuge, Huron National Wildlife Refuge, Michigan Islands National Wildlife Refuge. Accessed March 2020. Available online from: https://ecos.fws.gov/ServCat/DownloadFile/45718.

U.S. Fish and Wildlife Service (Service). 2019. Minimum Requirement Analysis Huron Island Light Station. Accessed March 2020. Available from: https://ecos.fws.gov/ServCat/Reference/Profile/110965.

Wilderness Connect. 2021. Summary Reports. Accessed March 2021. Available from: https://wilderness.net/practitioners/wilderness-areas/summary-reports/default.php

Appendix A

Other Applicable Statutes, Executive Orders and Regulations

Through the analysis in the Environmental Assessment the U.S. Fish and Wildlife Service has complied with the following laws and Executive Orders. Additional detail about how compliance was met is described in detail based selected laws and Executive Orders that apply to this project.

Cultural Resources

☒ American Indian Religious Freedom Act, as amended, 42 U.S.C. 1996 – 1996a; 43 CFR Part 7

☐ Antiquities Act of 1906, 16 U.S.C. 431-433; 43 CFR Part 3

☐ Archaeological Resources Protection Act of 1979, 16 U.S.C. 470aa – 470mm; 18 CFR Part 1312; 32 CFR Part 229; 36 CFR Part 296; 43 CFR Part 7

☒ National Historic Preservation Act of 1966, as amended, 16 U.S.C. 470-470x-6; 36 CFR Parts 60, 63, 78, 79, 800, 801, and 810

☐ Paleontological Resources Protection Act, 16 U.S.C. 470aaa – 470aaa-11

☐ Native American Graves Protection and Repatriation Act, 25 U.S.C. 3001-3013; 43 CFR Part 10

☐ Executive Order 11593 – Protection and Enhancement of the Cultural Environment, 36 Fed. Reg. 8921 (1971)

☐ Executive Order 13007 – Indian Sacred Sites, 61 Fed. Reg. 26771 (1996)

The purpose of action under this Environmental Assessment is grounded in the need to meet National Historic Preservation Act requirements. Under all alternatives, there would be no adverse effects to cultural resources after mitigation and consultation with the Michigan State Historic Preservation Office occurs. This process was completed prior to the final determination for the National Environmental Policy Act process.

Fish and Wildlife

☒ Bald and Golden Eagle Protection Act, as amended, 16 U.S.C. 668-668c, 50 CFR 22

☒ Endangered Species Act of 1973, as amended, 16 U.S.C. 1531-1544; 36 CFR Part 13; 50 CFR Parts 10, 17, 23, 81, 217, 222, 225, 402, and 450

☐ Fish and Wildlife Act of 1956, 16 U.S.C. 742 a-m

☐ Lacey Act, as amended, 16 U.S.C. 3371 et seq.; 15 CFR Parts 10, 11, 12, 14, 300, and 904

☒ Migratory Bird Treaty Act, as amended, 16 U.S.C. 703-712; 50 CFR Parts 10, 12, 20, and 21

☐ Executive Order 13186 – Responsibilities of Federal Agencies to Protect Migratory Birds, 66 Fed. Reg. 3853 (2001)

Mitigation measures have been put in place to reduce impacts to nesting bald eagles using the refuge under all alternatives. An Intra-Service Section Seven Biological Evaluation Form and 4(d) Rule Determination for the northern long-eared bat were developed to address any threatened and endangered species that may use the refuge. There is currently no critical habitat found on the refuge and the two threatened and endangered species whose range overlaps the refuge Canada lynx and red knot have not been found on the refuge. A no effect determination was found for these species and incidental take of northern long-eared bat is allowed for the project if a bat is impacted during preservation activities. It should be noted, that there have been no records of northern long-eared bats on the refuge. See Appendix C for full Intra-Service Section Seven Biological Evaluation Form and 4(d) Rule Determination.

Natural Resources

☒ Clean Air Act, as amended, 42 U.S.C. 7401-7671q; 40 CFR Parts 23, 50, 51, 52, 58, 60, 61, 82, and 93; 48 CFR Part 23

☒ Wilderness Act, 16 U.S.C. 1131 et seq.

☐ Wild and Scenic Rivers Act, 16 U.S.C. 1271 et seq.

☐ Executive Order 13112 – Invasive Species, 64 Fed. Reg. 6183 (1999)

The purpose of action under this Environmental Assessment is grounded in the need to meet Wilderness Act requirements. A purpose of the refuge is the

wilderness act. A minimum requirement analysis to evaluate the minimum tool required to address this need was completed in 2019. For more detail reference: https://ecos.fws.gov/ServCat/Reference/Profile/110965. Prior to action occurring under any alternative additional minimum requirement analyses will be completed to evaluate the minimum tool required to meet the need to act in wilderness.

Appendix B

Cultural Resources Management Plan

Appendix C

Public Comments Analysis Report

Summary of public comment period

On April 15, 2020, the Service released the Draft Environmental Assessment documents (including all separate appendices) and Draft Huron Island National Wildlife Refuge Cultural Resources Management Plan for public review. Following the release of the Draft EA and Step-down Plan, the Service opened a 30-day public comment period that ended on May 15, 2020. After requests to extend the public comment period, the Service extended the public comment period and accepted comments until May 29, 2020. Members of the public were notified of the availability of the Draft Assessment and Draft Plan through a press release posted on the Service website at https://www.fws.gov/refuge/Huron. A press release was printed in the local paper, the Mining Gazette announcing the public comment period, April 28 and the extension May 18. Radio Results Network covered the story on 5/16/2020 and a second interview was completed on 5/22/2020 about the extension. An announcement about the public comment period was also made using the Seney National Wildlife Refuge Facebook page. The Great Lakes Lighthouse News and History Nonprofit Organization also posted about the public comment period on April 13, 2020 that did not include the informational resources for the public to review. On April 15, 2020, the Service provided a comment on this thread with a link to the draft documents and where to submit official public comments. That entire conservation included 230 comments, 655 shares, and 362 like, angry and sad emotive reactions. The Seney Island Facebook post received 1 comment, 5 shares and 14 like emotive reactions. Comments made on Facebook posts were not considered official comments associated with the draft plan and draft environmental assessment. The public was encouraged to submit comments regarding the Draft Environmental Assessment and Draft Plan to the Service directly via email to sara_siekierski@fws.gov, by phone or by mail for them to be considered part of the official administrative record for this project.

The Comment Analysis Process

Comment analysis is a process used to compile and correlate similar public comments into a format that can be used by decision makers and the Environmental Assessment and Cultural Resources Management Plan planning team. Comment analysis assists the team in organizing, clarifying, and addressing technical information pursuant to the National Environmental Policy Act (NEPA)

regulations. It also aids in identifying the topics and issues to be evaluated and considered throughout the planning process.

In total, the Service received comments from 96 submitters on various aspects of the Draft Environmental Assessment and plan. Members of the planning team read and analyzed all comments, including those of a technical nature; opinions, feelings, and preferences of one element or one potential alternative over another; and comments of a personal or philosophical nature. The team grouped and organized comments by issues and themes, drafted concern statements, and participated in developing this comment summary.

Although the analysis process attempts to capture the full range of public concerns, comments from people who chose to respond do not necessarily represent the sentiments of the entire public. Furthermore, this was not a vote-counting process, and the emphasis was on the content of the comment rather than the number of times a comment was received.

Content Analysis

This is the basic summary, which provides information on the numbers and types of comments received. Data show the amount of correspondence received by organization type, such as, government agencies, organizations, individuals, etc. While the Service acknowledges comments expressing a feeling, opinion, or a preference for a particular alternative, those comments are not considered substantive and are not included in the responses.

Nature of Comments Received

During the comment period, 96 unique pieces of correspondence were received on the Draft Environmental Assessment and Draft Plan, including correspondence from a tribe, a state agency, three organizations, 86 individuals and two anonymous submissions. Correspondence reviewers derived 225 unique comments, 53 of which were substantive comments. The most common topic found in the individual comments was support for or opposition to the removal of buildings or features found on Lighthouse Island. Five commenters were generally in support of the Service's preferred alternative, seven had no stance and 84 were generally opposed to the preferred alternative. While the Service acknowledges comments expressing a feeling, opinion, or a preference for a particular alternative, those comments are not considered substantive and are not included in the responses.

Organizations that Commented

Tribal Government

- Keweenaw Bay Indian Community

Federal Agency

- Advisory Council on Historic Preservation

State Agency

- Michigan State Preservation Office

Organization (non-profit, citizen's group)

- Michigan Lighthouse Alliance
- Great Lakes Lighthouse Keepers Association
- Huron Island Lighthouse Preservation Association

Business/Commercial Sector

- Lighthouse Digest
- Sanders & Czapski Associats, PLLC

Table 1: Correspondence by Organization Type

Organization Type	Number of Correspondence
Tribal Government	1
Federal Agency	1
State Agency	1
Organization (nonprofit, citizen's group)	3
Business/Commercial Sector	2
Unaffiliated Individual	86
Anonymous	2
Total	**96**

Concerns or Issues Expressed

Concerns or issues expressed among all entities (agencies, organizations, and unaffiliated individuals) were:

- Providing additional information about the historical significance of the trail/tramway feature and the fog signal building.
- Concerns about tribal government history not being incorporated adequately in the cultural resources management plan.

- Concerns that actions could significantly alter the historical integrity of the light station.
- Concerns that once cultural resources are removed they would be lost forever and this is considered irreparable damage.
- Concerns about the budget for preservation activities that included proposed alternatives to obtain additional funding.
- Concerns the agency has no interest in cultural preservation.
- Concerns that evaluation of the cultural connection to the lighthouse island was not adequately covered.
- Concerns that the cost comparison of alternatives was not adequate
- Concerns about the basis for determining the boathouse was unsafe and requests for a structural engineer to provide a condition assessment.
- Concerns about repairing buildings leading to increase in visitors and a negative impact on the environment.
- The need to assess rights that the Keweenaw Bay Indian Community retain that apply specifically to the Huron Islands.
- Concerns about alternatives of restoration and rehabilitation not being evaluated in the environmental assessment.

Points of Clarification in the Environmental Assessment and Plan authority to make the decision to manage cultural resources on National Wildlife Refuges without public consent and should poll the public on actions taken

A single comment was received that stated, “You don't have the authority to make such decisions without the people of Michigan giving our consent. Through executive order President Trump put the United States back on the Common Law which gives all power back to We the People. I will send my remonstrance to the elected officials and the Attorney General Barr if needed.”

The Service has been granted the authority to make decisions regarding the management of the National Wildlife Refuge System through the National Wildlife Refuge System Improvement Act of 1997 (Pub. L. 105-57; 111 Stat. 1252). The refuge has been authorized under the refuge purposes of the Migratory Bird Conservation Act, the National Refuge Administration Act and Public Law 91-504.

Another recommended that the agency poll the public on the action to take concerning actions specific to each building preservation technique.

In response to both comments, the National Environmental Policy Act allows for the public to provide their reviews and comments on environmental analyses

associated with decisions proposed by agencies, however this process does not require 'consent' or "majority rule" by the public on federal decision making.

Error in Cultural Resources Management Plan

A member of the public noted that the Huron Island Lighthouse is not a National Historic Landmark as stated in the Cultural Resources Management Plan, but it is rather listed in the National Register of Historic Places.

The refuge recognizes that this error was originally made in the Comprehensive Conservation Plan (with that section quoted verbatim in the Draft Cultural Resources Management Plan) and it has been corrected in the Final Cultural Resources Management Plan (page 10).

Selling the islands

Concern was expressed that the islands would be sold and privatized. Other commenters offered to purchase the islands.

Huron National Wildlife Refuge was one of the first refuges to be established when the National Wildlife Refuge System was in its infancy and remains a gem within the system. It supports unique cultural resources and wilderness areas that are important to the refuge system. In addition, the islands, including Lighthouse Island, provide important habitat for migratory birds, eight of which are listed as regional birds of concern. Because of its importance in the refuge system, there are no plans to sell any of the eight islands that comprise this refuge. Lighthouse Island will remain in public ownership and remain accessible by the public for use as long as the uses continue to be compatible with the refuge purposes.

Language use: Stabilization is Preservation in Place

A commenter was concerned that the Service had not considered the option to stabilize buildings through techniques such as "reroofing or simply patching the Signal Building roof".

The Service considers these actions under preserving in place and have considered it in the Analysis of Alternative A.

Process if Adverse Effects to Cultural Resources

The Michigan State Historic Preservation Office provided a comment clarifying the process for mitigating adverse effects to cultural resources. The comment states, "Federal agencies are required to avoid, minimize, or mitigate adverse effects. Please note that if the federal agency and the SHPO concur that the adverse effect cannot be avoided, the Section 106 process will not conclude until the consultation process is complete, an MOA is developed, executed, and implemented, and, if

applicable, the formal comments of the Advisory Council have been received, 36 CFR § 800.6. We remind you that federal agency officials or their delegated authorities are required to involve the public in a manner that reflects the nature and complexity of the undertaking and its effects on historic properties per 36 CFR § 800.2(d). The National Historic Preservation Act also requires that federal agencies consult with any Indian tribe and/or Tribal Historic Preservation Officer (THPO) that attach religious and cultural significance to historic properties that may be affected by the agency's undertakings per 36 CFR §800.2(c)(2)(ii)."

Based on the information provided for our review, the State Historic Preservation Officer (SHPO) concurs with the determination of the Service that the proposed undertaking will have an adverse effect on the Huron Islands Light Station site, which appears to meet the criteria for listing in the National Register of Historic Places. Mitigation of adverse effects will occur as described within the Memorandum of Agreement.

Concerns Outside the Scope of Analysis

Open other wilderness islands within Huron National Wildlife Refuge for public use

Comments were received that proposed opening other islands within the Huron Island National Wildlife Refuge to the public for recreational access in order to provide a more traditional wilderness experience of being in a more natural setting. The Environmental Assessment mentions the impacts of removing buildings on the northwest side of the Lighthouse Island and states that under this alternative the natural and other features of value characteristics in wilderness is more balanced on that island.

The opening of other islands is outside of the scope of analysis, as the purpose of the environmental assessment is to manage cultural resources given the National Historic Preservation Act, Wilderness Act and refuge purposes.

Vandalism, littering, destruction of government property, lack of public restrooms

There were concerns about the need for additional law enforcement to address "vandalism, littering (including evidence of human defecation on the island), destruction of government property, illegal use of pyrotechnics, illegal campfires and breaking & entering into almost every single building on the Huron Islands" as part of action.

The purpose of the environmental assessment is to address cultural resources management and not public use issues. The Service appreciates the public raising these concerns and will address those in future planning efforts. In the interim outside of this decision, the Service is considering ways to educate visitors about leave no trace efforts practiced in wilderness to reduce the litter and defecation issues and potentially installing a pit toilet if found to be the minimum necessary tool for managing wilderness. Regulations are currently posted on site and on the refuge website.

The refuge is exclusive and not accessible by all

Because of the remote nature of the islands, boats are required for access limiting visitation to those that own a boat or have the ability to rent or charter a boat. This was a concern for some citizens and it was recommend that, "The story of the Islands and Lighthouse can and should be told in word, photo, & video media which could be preserved in local, state, & federal museums. Important historic relics should be saved too. More people would have access to museums and online history, than boat travel."

Issues of accessibility are outside of the scope of this environmental assessment; however, the Service recognizes the need to share the cultural and natural resource story of the refuge. The Service has committed to exploring off-site interpretive opportunities as part of the Cultural Resources Management Plan. These opportunities can range from signs, kiosks, exhibits and/or brochures available at strategic locations (boat launches, cultural centers, museums, such as the Marquette Maritime Museum, visitor centers, etc.) around the Upper Peninsula of Michigan to target audiences potentially open to learn about or even visit the Huron Islands Light Station. The refuge is also exploring the use of a computer application to offer an enhanced experience for visitors wanting a guided audio tour or virtual simulation of seeing the removed buildings onsite via a cellular smartphone. Similar type of technology is currently offered at the Seney National Wildlife Refuge.

Cooperative Management Agreement with the Keweenaw Bay Indian Community

The Keweenaw Bay Indian Community expressed an interested in developing a "cooperative management agreement with USFWS for cultural and environmental assessments, and plant and wildlife investigations and research" multiple times during the process of this assessment.

The Service is committed to working with Keweenaw Bay Indian Community, and other partners, on developing a Memorandum of Agreement for implementing the Cultural Resources Management plan. The Service will continue discussions with Keweenaw Bay Indian Community on management considerations for biological and educational work and partnership opportunities for collaboration.

Concern Response Report

This section summarizes the substantive comments received during the Draft Environmental Assessment/Step-down Plan public review comment process. As defined in the Council on Environmental Quality's regulations for implementing the National Environmental Policy Act, comments are considered substantive if they:

- question, with reasonable basis, the accuracy of the information in the document
- question, with reasonable basis, the adequacy of the environmental analysis
- present reasonable alternatives other than those presented in the environmental assessment
- cause changes or revisions in the proposal

Substantive comments are organized by topic and further consolidated into concern statements or new information. Comments have been summarized and paraphrased. Representative quotes are then provided for each concern statement. The Service provides a response for each concern statement. Where appropriate, the text of the Final Environmental Assessment has been revised to address the substantive comments in this appendix.

Topic 1: Additional Information Provided for the Changed Preferred Alternative

New Information	Representative Comment	Service Response
1.1 Fog signal is historically significant and rare	Individuals with professional expertise indicated the Fog Signal is historically significant and rare.	Because of the new information provided a new alternative was developed to preserve the Fog Signal Building in place. This is the Service's new preferred alternative. This additional information provides context that changes the impact analysis for the previously preferred alternative. Removal of the Fog Signal Building would result in a negative impact to the regional and local historical value due to the limited number of fog signal buildings still physically intact in the Lake Superior region built in this era. One of the comments stated that from their professional judgment the fog signal building is the only intact example of a Fog Signal Building with its Tram & Turnstile on the Great Lakes. Furthermore, this particular fog signal building was one of three fog signal buildings in Lake Superior to host a radio beam to help with navigation prior to radar being equipped on boats. The two other fog signal buildings that hosted the radio beacon at the time have been replaced throughout history. See the Cultural Resources section of the environmental assessment for additional information.

New Information	Representative Comment	Service Response
1.2 The light station as a whole is historically significant	Comments were received concerned that keeping the light station physically in place was important to their historical significance. The State Historic Preservation Office stated, "To remove any trace of the components at the north end of the island would destroy half of the physical history of the light station and would create a significant void in any interpretation of the site."	The buildings and features eligible for listing on the National Register of Historic Places include all buildings and, because of the public comments, the Pathway and Tramway/Turntable. The National Historic Preservation Act has a process for determining historical significance of buildings and site features and the Service has completed that process for this area. The Service recognizes that removal of the physical structures from the light station will result in an adverse effect to the cultural resources and will mitigate as appropriate once the final decision has been made and a Memorandum of Agreement is in place.
1.3 Other features of values contribute to national Register Nomination	The State Historic Preservation Office proposed the other features of values contributed to the national register nomination for the Light Station.	Because of this comment, we have decided to determine that the Pathway and Tramway/Turntable are eligible for listing on the National Register of Historic Places. No other site features, including the Dock, flagpole, and radio tower, are currently considered eligible for listing on the National Register of Historic Places. This is determined through the finalization of the Environmental Assessment and decision documents being signed.

New Information	Representative Comment	Service Response
1.3 Tramway and turntable is last of kind and rare	Tramway and turntable is last of kind and very rare - 3 in Michigan	Because of the new information provided a new alternative was developed to preserve the Tramway/Turntable in place. This is the Service's new preferred alternative. In addition, the Service is now considering the Tramway/Turntable eligible for listing on the National Register of Historic Places.
1.4 Tribal history	Historical accounts of how the tribe interacted with the lighthouse and used the island were provided. Some concerns were expressed that tribal history was not adequately covered in the Cultural Resources Management Plan.	The additional historical accounts will be added to interpretation of the site and has been recorded in the Cultural Resources Management Plan. The Service will consult with the Keweenaw Bay Indian Community and other tribes as appropriate to incorporate tribal history into interpretation and outreach materials.

Topic 2: Irreparable impact (once gone, gone forever)

Concern Statement	Representative Comment	Service Response
2.1 Once physical building is lost future generations lose out on ability to connect to resource	Comments were concerned about the fact that once a building is lost it would be lost forever for future generations and considered irreparable damage.	The removal of any building or other site features would result in a permanent physical loss of those resources. Under all alternatives prosed under this Environmental Assessment, the Service has committed to mitigating adverse effects of the undertakings as defined by the National Historic Preservation Act including removal of buildings and other site features. Mitigation measures would ensure that the buildings and other site features important to telling the history of the use of the island are captured in alternative forms to ensure future generations can gain an understanding of these resources. Mitigation measures are determined through the Memorandum of Agreement stage. No changes to the environmental assessment or the alternatives were made.
2.2 Significantly alter the historical integrity of the light station	Comments were received that thought the action to remove any buildings would, "significantly alter the historical integrity of the light station".	The Environmental Assessment is developed to provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact. The Environmental Assessment evaluates the context and intensity of the direct, indirect and cumulative environmental consequences of proposed actions to determine if the threshold to significance has been reached. Evidence was presented in the Environmental Assessment that supports the conclusion that the historical significance of the light station would not be altered with the removal of the barracks building and some of the other features of values as these impacts will be mitigated through developing a Memorandum of Agreement.

Topic 3: Alternatives to address Budget Concerns

Concern Statement	Representative Comment	Service Response
3.1 Offer Services	Comments offered varying services including time and expertise on lighthouse restoration and stabilization to aid in implementation of the Cultural Resources Management Plan.	Recommendations provided in these comments have been incorporated into the Cultural Resources Management Plan and commenters will be contacted at the point of developing and implementing the Memorandum of Agreement if appropriate needs arise.
3.2 Create non-profit, fundraise or suggested partners	Comments provided recommendations to develop fundraising mechanisms for preservation efforts on the island. Proposals included developing a non-profit to ask for donations from the public, a "go fund me" site, a conservancy, or partner with a historic society. It was note that fundraising would be easier to do or stabilization instead of demolition of buildings.	The Service policy (212 FW 8) is to accept, use, and recognize donations in a manner that promotes and enhances our mission, consistent with applicable laws and the Department's donations policy (374 DM 6). Although the Department does not directly regulate the conduct of fundraising by non-federal entities, fundraising conducted on its behalf is appropriate only when consistent with the Department's mission and goals, and the standards in policy and as described in written fundraising agreements. Service employees may not directly solicit donations for programs and must ensure they are consistent with anti-lobbying provisions such as 18 U.S.C 1913. The Service will address budgetary concerns and work with partners in developing a memorandum of agreement after the decision to implement the cultural resources management plan has been made.

Concern Statement	Representative Comment	Service Response
3.3 Convert Boathouse into education center to increase revenue	Comment was received proposing to convert the Boathouse into an education center and charge a service fee to increase revenue used for restoration of buildings.	The Service has the ability to charge a recreational fee to access national wildlife refuges, however considering charging a recreational fee to access Huron National Wildlife Refuge is outside of the scope of this environmental assessment purpose and need. New installations are a prohibited act in wilderness unless determined to be the minimum necessary tool for maintaining wilderness character. Converting the Boathouse into a visitor center is not considered within the scope of this environmental assessment and would need to be addressed in a Visitor Service Plan for the island and meet wilderness considerations for installations in wilderness.
3.4 Use maintenance free exterior to cut down on cost	It was recommended that the Service consider maintenance free exterior to cut down on costs.	The harsh winters and storms that occur in Lake Superior can be hard on building materials over the long-term. The Service considers lifetime of materials when replacing components of building such as roofs. Due to the harsh elements on the island, there is no material that does not require maintenance of some degree. When repairing building elements the Service will use the appropriate material to encourage cost saving on a long-term basis as a way to minimize the time spent on repairs and use the minimum required tools as a requisite to any work performed within a designated wilderness. This detail will be described in the Memorandum of Agreement and work plans set in the Cultural Resources Management Plan. Under all alternatives the Service will employ cost saving measures and no changes were made to the Environmental Assessment because of this comment.

Topic 4: NEPA Purpose and Need

Concern Statement	Representative Comment	Service Response
4.1 Agency interest in preservation	Concern was expressed that the Service was not worried about meeting preservation requirements because the Boathouse has evidence of neglect.	Through this action, the Service recognizes that there have been adverse effects to cultural resources on the island and have identified that as part of the purpose and need to develop the Cultural Resources Management Plan. Through completing the Environmental Assessment, the Service will comply with the National Historic Preservation Act Section 106 standards. No changes were made because of this comment.

Topic 5: Missing from Analysis

Concern Statement	Representative Comment	Service Response
5.1 Intrinsic value of connection to place not evaluated	Comments were received concerned that the Service did not adequately consider their individual connection to the cultural resources on the island. Many of them valued the islands as they were connected it through sense of place and memories with family.	The intrinsic value of connection to the Light Station has been included in the evaluation of cost and benefits in the economic section of the Environmental Assessment through the qualitative narrative these commenters have provided. At the time the Draft Environmental Assessment was produced, this information was not included. This information was included in the analysis within the Final Environmental Assessment.
5.2 Increase in visitation impacting environment	Comments were received expressing concern that the Service did not adequately consider the potential for an increase in visitation to the island and the impacts to the human and natural environment because of this increase.	Considerations of additional impacts from visitation have been incorporated in the habitat, wildlife, and visitation environmental consequences sections. The exact magnitude of increase in visitors using the Refuge is estimated in the visitation section for each alternative and considered appropriately. Visitation between alternatives is estimated to be similar because visitation to the island is limited to those with boat access. This information was considered and visitation estimates more explicitly included.

Concern Statement	Representative Comment	Service Response
5.3 Restoration of lighthouse	Commenters proposed the level of restoration the Service should undertake for the lighthouse.	Restoration as defined by some commenters includes restoring the Lighthouse to a standard that would allow visitors to enter the buildings for interpretive use. Restoration as described in the Secretary of Interior's Standards for Treatment of Historical Properties is described as, "the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time by means of the removal of features from other periods in its history and reconstruction of missing features from the restoration period." Under the preserving in place alternative the Service will use restoration methods as deemed appropriate. However, the alternative to restore the Lighthouse for visitors to enter and use, as a visitor center was not further explored as it was outside of the scope of the purpose and need of this environmental assessment. A Visitor Service Plan is where the potential to use the Lighthouse as a contact station or visitor center would be addressed.
5.4 Rights of the Keweenaw Bay Indian Community	Need to assess rights that the Keweenaw Bay Indian Community retain that apply specifically to the Huron Islands. The Service should first ask the question "did the Ojibwe knowingly specifically cede the Huron Islands in one or more treaty with the United States?"	The islands are located within the ceded territory as described under the 1842 Treaty with the Chippewa. Under this Treaty, tribal members retained the rights to hunt, fish and gather within the ceded territory. These retained rights are called usufructuary rights, which means the right to use property. Under this action, retained rights of tribal members are not being impacted.

Topic 6: Question Adequacy of Evaluation

Concern Statement	Representative Comment	Service Response
6.1 Cost comparisons between alternatives	Concerns that the environmental assessment did not adequately consider costs of the alternatives in a short and long-term fashion.	For the purposes of complying with the National Environmental Policy Act, the weighing of the merits and drawbacks of various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations (40 CFR § 1502.23, 1978, as amended in 1986 and 2005). A summary of expected costs and benefits for the different alternatives have been described in the refuge operations and maintenance and socioeconomic sections of the final environmental assessment. As important, qualitative considerations such as the intrinsic value of the sense of place the analysis were asked to be considered because of the public comment period (see Concern statement 5.1) the analysis is not displayed in monetary costs. The magnitude of the costs of alternatives have been extrapolated from Facility Condition Assessments developed for maintenance purposes on the island.
6.2 Condition of the boathouse	Individuals of the public and the State Historic Preservation Office were concerned about the analysis concerning the safety and structural integrity of the Boathouse. Individuals noted that they have used the Boathouse for emergency shelter during storms.	A Condition Assessment Report was developed to assess the structural integrity of the Boathouse, a building proposed for removal in original draft documents. The report recommended that the Boathouse be closed to the public as soon as possible and modified rehabilitation occur in the long-term (Appendix D). Because of information provided in the report and conversations with the State Historic Preservation Office after the release of the Draft Environmental Assessment, the Service created a new preferred alternative that integrates the recommendations from this report. This alternative has been evaluated for effects on the human environment in this Final Environmental Assessment.

Topic 7. Request for Additional Information

Concern Statement	Representative Comment	Service Response
7.1 Request for additional information by State Historic Preservation Office	Additional information was requested by the State Historic Preservation in order to make a determination about the condition and significance of the resources.	The Service provided all additional material requested including photos of the interior of the Fog Signal Building and additional site features and the Boathouse Condition Assessment completed by structural engineers. After further conversations with the State Historic Preservation Office, the Service has have determined that the Pathway and Tramway/Turntable are eligible for listing on the National Register of Historic Places and will be included in determinations of effects analyses as required by the National Historic Preservation Act.
7.2 Request for additional information by Advisory Council on Historic Preservation	Additional information was requested by the Advisory Council on Historic Preservation to determine if their involvement was needed.	The Service provided all requested information to the Advisory Council on Historic Preservation February 12, 2021. They were given 15 days to determine whether their participation in the consultation to resolve adverse effects is warranted. No response was received indicating there was no need for consultation.

Topic 8: Request for Extension of Public Comment Period

Concern Statement	Representative Comment	Service Response
7.1 Request for extension of public comment period	Some public comments were received asking for an extension to the public comment period in May. Another comment came in asking for an additional extension beyond the end of May 2020.	The Service made the draft documents available from April 15, 2020 to May 29, 2020 and accommodated the first request to extend the public comment period. The second request to extend the public comment period was not granted, because the Service was able to reach out to the individual and provide them the resources they needed to provide a formal comment within the April 15-May 29, 2020 timeframe.

Appendix D

Structural Integrity Report of Boathouse

Document Summary

Structural Engineering Company, Sanders & Czapski Associates completed a Condition Assessment Report of the Boathouse at the Huron Islands Light Station Huron National Wildlife Refuge on November 19, 2020. The report was contracted because of additional information requested by the public and the State Historic Preservation Office during the public review process. The report assesses the safety and structural integrity of the boathouse and include recommendations for managing the Boathouse. In summary, the report states, “Due to a variety of factors including lack of maintenance, extreme weather conditions, and vandalism, the Boathouse is presently in very poor condition. It is the opinion of Sanders & Czapski Associates that in its present condition the Boathouse is an unsafe structure and that public access should be prohibited. All openings should be secured to prevent entry.”

The report further provides a summary of actions that could occur for treatment including stabilization, rehabilitation, modified rehabilitation and demolition. Ultimately Sanders and Czapski Associates states, “Based on our site investigation and analysis, and discussions with U.S. Fish & Wildlife Service, our recommended course of treatment is the “Modified Rehabilitation”. Retaining the structural steel frame of the building and some of the concrete “Corr-Mesh” wall panels, along with interpretive signage, would provide an opportunity to interpret the original building in its original location. Rehabilitating the building for use as a visitor shelter and interpretive center would provide a new use for the Boathouse at this important historic maritime site.” This information was considered in developing a new alternative to rehabilitate the Boathouse under Alternative D of the final environmental assessment.

Appendix E

Intra-Service Section Seven Biological Evaluation Form and 4(d) Rule Determination

Appendix F

List of Michigan State Threatened, Endangered and Species of Concern for Marquette and Baraga County

List are from Michigan State University Natural Features Inventory (Michigan State University Extension 2020).

List of Species Common Name and State Status in Baraga Count

Lake sturgeon, Threatened

Moose, Species of Concern

Freija fritillary, Species of Concern

Frigga fritillary, Species of Concern

Yellow banded bumble bee, Species of Concern

American bittern, Species of Concern

Goblin moonwort, Threatened

Floating marsh marigold, Threatened

Shortstalk chickweed, Threatened

Purple clematis, Species of Concern

Lake herring or Cisco, Threatened

Kiyi, Species of Concern

Shortjaw cisco, Threatened

Spoonhead sculpin, Species of Concern

Douglas's hawthorn, Species of Concern

Fragrant cliff woodfern, Species of Concern

Red-disked alpine, Species of Concern

Spruce grouse, Species of Concern

Showy orchis, Threatened

Common gallinule, Threatened

Common loon, Threatened

Narrow-leaved gentian, Threatened

Wood turtle, Species of Concern

Bald eagle, Species of Concern

Henry's elfin, Threatened

Pickerel frog, Species of Concern

American shore-grass, Species of Concern

Northern Bluebell, Species of Concern

Big-leaf sandwort, Threatened

Little brown bat, Species of Concern

Northern long-eared bat, Species of Concern

Farwell's water milfoil, Threatened

Bigmouth shiner, Species of Concern

Smooth green snake, Species of Concern

Osprey, Species of Concern

Black-backed woodpecker, Species of Concern

Canada rice grass, Threatened

Pine-drops, Threatened

Northern gooseberry, Species of Concern

Kirtland's warbler, Endangered

Blue-eyed-grass, Species of Concern

Eastern box turtle, Species of Concern

List of Species Common Name and State Status in Marquette County

Northern goshawk, Species of Concern

Climbing fumitory, Species of Concern

Moose, Species of Concern

Chives, Threatened

Small round-leaved orchis, Endangered

Green spleenwort, Species of Concern

Frigga fritillary, Species of Concern

Yellow banded bumble bee, Species of Concern

American bittern, Species of Concern

Pale moonwort, Species of Concern

Red-shouldered hawk, Threatened

Northern reedgrass, Species of Concern

Calypso or fairy-slipper, Threatened

Sedge, Threatened

Campeloma spire snail, Species of Concern

Purple clematis, Species of Concern

Small blue-eyed Mary, Threatened

Lake herring or Cisco, Threatened

Ives lake cisco, Threatened

Kiyi, Species of Concern

Shortjaw cisco, Threatened

American bugseed, Species of Concern

Spoonhead sculpin, Species of Concern

Douglas's hawthorn, Species of Concern

Ram's head lady's-slipper, Species of Concern

Laurentian fragile fern, Species of Concern

Wild oat grass, Species of Concern

Rock whitlow grass, Species of Concern

English sundew, Species of Concern

Male fern, Species of Concern

Fragrant cliff woodfern, Species of Concern

Eastern elliptio, Species of Concern

Blue wild-rye, Species of Concern

Blanding's turtle, Species of Concern

Red-disked alpine, Species of Concern

Spruce grouse, Species of Concern

Peregrine falcon, Endangered

Common loon, Threatened

Narrow-leaved gentian, Threatened

Wood turtle, Species of Concern

Purple false oats, Species of Concern

Northern oak fern, Endangered

Limestone oak fern, Threatened

Bald eagle, Species of Concern

Fir clubmoss, Species of Concern

Moor rush, Threatened

Creek heelsplitter, Species of Concern

American dune wild-rye, Species of Concern

Pickerel frog, Species of Concern

Northern Bluebell, Species of Concern

Big-leaf sandwort, Threatened

Little brown bat, Species of Concern

Northern long-eared bat, Species of Concern

Alternate-leaved water-milfoil, Species of Concern

Farwell's water milfoil, Threatened

American burying beetle, Presumed extirpated

Small yellow pond lily, Endangered

Smooth green snake, Species of Concern

Fragile prickly pear, Endangered

Osprey, Species of Concern

Black-backed woodpecker, Species of Concern

Butterwort, Species of Concern

Canada rice grass, Threatened

Acorn Ramshorn, Endangered

Northern blue, Threatened

Inland bluegrass, Species of Concern

Pine-drops, Threatened

King rail, Endangered

Northern gooseberry, Species of Concern

Lake cress, Threatened

Dwarf raspberry, Endangered

Western dock, Endangered

Pearlwort, Threatened

Satiny willow, Species of Concern

Kirtland's warbler, Endangered

River fingernail clam, Species of Concern

Hairy hedge-nettle, Species of Concern

Lake Huron tansy, Threatened

Clinton's bulrush, Species of Concern

Downy oat-grass, Species of Concern

Dwarf bilberry, Threatened

New England violet, Threatened

Northern woodsia, Endangered

Blunt-lobed woodsia, Threatened