

1 OUTER ISLAND CLR TREATMENT

2 Introduction

3 The treatment section of the CLR in conjunction with the HSR describes a strategy for the long-term
 4 management of the cultural landscape and historic structures of the Outer Island Light Station. The strategy
 5 is based on the analysis of the cultural landscape's characteristics, the history and period of significance for
 6 the light station, the existing condition of the historic features, and contemporary use of the light station. A
 7 general management philosophy of rehabilitation has been identified as the most appropriate approach for
 8 the cultural landscape. Rehabilitation will allow for repairs, alterations, and additions that will be necessary
 9 for the compatible use of the light station, and will preserve the characteristics and features that convey the
 10 light station's historical, cultural and architectural values.³⁶ These actions will enable the park to preserve
 11 the contributing resources of the cultural landscape, while allowing for specific alterations to accommodate
 12 contemporary use and interpretation of its history.

15 TREATMENT GOALS

- 16 • Preserve extant contributing cultural resources
- 17 • Reestablish missing resources
- 18 • Reveal the cultural landscape by representing the important characteristics from the period of
- 19 significance
- 20 • Improve the understanding of the overall system of light stations in the Apostle Islands for both
- 21 visitors and park staff by incorporating interpretation of landscape resources that have been
- 22 repaired or reestablished
- 23 • Aid in preserving the natural resources of the light station reservation by monitoring and
- 24 controlling invasive plant material, erosion of shoreline slopes and directing visitor use

27 TREATMENT TERMINOLOGY

28 The following terms are used frequently in the CLR for actions that address the cultural landscape and its
 29 features, and are defined below. A more detailed glossary is presented in the Glossary of Terms at the end
 30 of this volume.

31
 32 **Maintain.** Maintain includes the standard maintenance practices (mowing, pruning, thinning of vegetation,
 33 painting and cleaning of small scale features) that are necessary to retain a features or area as a contributing
 34 resource. Maintenance activities are usually not classified as repair, however minor repair such as
 35 replacement of posts or railings or segments of paving are included.

36
 37 **Plant.** Plant or planting includes the planting or removal and replanting of landscape material and
 38 vegetation as part of maintenance activities, or the restoration of missing landscape planting features.

39
 40 **Reestablish.** The measures necessary to depict a feature or area as it occurred historically. Reestablish may
 41 include replacement of missing features (such as replacement of a pattern of planting) or a missing quality
 42 (e.g., reestablishment of a view).

43
 44 **Relocate.** Relocate includes the removal and resetting of features in new locations. This is usually
 45 associated with noncontributing features.

³⁶ Landscape Lines.

Remove. The actions required to remove nonhistoric or noncontributing features. This is usually associated with noncompatible features in the landscape.

Repair. Repair includes the measures necessary to maintain features, components of features, and materials that require additional work. These may include repairing declining structures, small scale features (e.g., repair of a railing) or landscape plantings (e.g., repair mass planting by adding infill plantings). Features that are repaired shall match the original in design, color, texture, and where possible, material.

Restore. The measures necessary to depict a feature or area as it occurred historically. Restoration may include repair of a feature so that it appears as it did historically.

Retain. These are actions that are necessary to allow for a feature (contributing or noncontributing) to remain in place in its current configuration and condition.

Stabilize. Stabilize refers to immediate measures (more extensive than standard maintenance practices) that are needed to prevent deterioration, failure, or loss of features.

PREFERRED TREATMENT ALTERNATIVE

During the development of the CLR/HSR three treatment alternatives were produced and examined. The CLR/HSR contains only the Preferred Treatment Alternative. The additional treatment alternatives considered can be found in the Environmental Assessment.

Intent of Preferred Treatment Alternative

The Outer Island Light Station is significant to the Apostle Islands system of light stations because of 1) its representation of the development of navigational aids along the outer shipping route to Duluth and across eastern Lake Superior, 2) its clear depiction of improvements in navigational and light station technology, and 3) its position as the most remote of the light stations. The lives of the keepers and their families were impacted by the progression of new navigational technologies, made evident by the historic features of the cultural landscape. By preserving, rehabilitating, or reestablishing these features, the treatment approach of the CLR/HSR strives to clearly depict the story of the Outer Island Light Station.

The intent of the preferred treatment is to rehabilitate the cultural landscape of the Outer Island Light Station to portray the period of navigational history that the light station best represents within the system. The period of significance for the Outer Island Light Station (1874 –1961) begins with the establishment of the Outer Island Light Tower and Keepers Quarters and ends with automation of the light. The extant contributing features best represent the Light Station (1901- 1938) and Coast Guard (1939-1960) periods described in the Site Development section of this chapter. The treatment approach for extant contributing features emphasizes these periods when the light station was in its most vibrant state. Recommendations also include the restoration of landscape features lost since the period of significance.

Preferred Treatment Alternative (Site Image OI- 79, Site Image OI-80)

The treatment measures are intended to preserve and rehabilitate the cultural landscape features. This requires a variety of actions that may be accomplished by either a series of preservation steps implemented over time or as a one-time action paired with future maintenance. Emphasis should be placed on the preservation and/or rehabilitation of the contributing features that most strongly define the character of the landscape as outlined above.

Specific treatment measures are depicted in a series of plan drawings and are accompanied by detailed narrative descriptions, organized by landscape characteristics and presented as follows.

SPATIAL ORGANIZATION/VIEWS AND VISTAS

Spatial organization is a key feature of the cultural landscape and is primarily defined at the Outer Island Light Station by the relationship between the buildings, structures, circulation features and the cleared area of the light station within the reservation. While the arrangement of buildings, structures and circulation features have remained intact, the cleared area of the light station grounds and the larger reservation has been substantially reduced from the period of significance. The landscape analysis portion of this report addresses this change. The incremental encroachment of forest vegetation into the historically cleared areas of the reservation has reduced the cleared area immediately adjacent to the light station grounds and has changed the open character of the light station. Views from the waters of Lake Superior to the light station are also an important component of the cultural landscape. The growth and encroachment of forest vegetation, specifically forest trees, has also impacted views from the lake to the light station. This encroachment of forest vegetation has diminished the integrity of the cultural landscape.

Additional discussions regarding the means and methods of clearing forest vegetation from the light station and the removal of trees from the shoreline slopes are included in Volume I, Chapter 5: Management Issues.

The treatment recommendations for spatial organization and views/vistas include 1) preserving the existing organization of buildings, structures, and site features; 2) reestablishing the cleared area of the landscape to better depict its condition during the period of significance; and 3) reestablishing views from the lake to the light station by selective removal of trees along the shoreline banks. Individual treatment measures are described as follows:

Spatial Organization - General

The basic location and composition of the buildings, structures (e.g. tramway), circulation features (concrete walks) shall remain in place, preserving the composition of the cultural landscape. Any new features shall be located outside of the core of the historic fabric and shall not interfere with views to and from the station.

Light Station Clearing (Meadow)

Clearing of forest vegetation is intended to reestablish the cleared area of light station to a condition that better represents the period of significance, specifically the Light Station (1901-1938) and Coast Guard (1939–1960) periods. Specific actions related to clearing are addressed in the vegetation section.

Clearing to reestablish a portion of the cleared area may be undertaken on an incremental approach addressing the most critical and beneficial areas of clearing areas first. Emphasis should be placed on areas that most strongly define the character of the landscape listed below in order of priority:

- Clearing for fire protection (50 foot buffer) adjacent to existing buildings and structures;
- The area immediately east of the Light Tower and Keepers Quarters
- The area southwest of the Fog Signal Building
- Selective tree removal from areas along the shoreline bank that impact views from the water to the Outer Light Tower and Keepers Quarters

Shoreline Bank - Selective Clearing

The intent of this treatment measure is to reestablish open views of the Outer Light Tower, Keepers Quarters, Fog Signal Building, and other structures to better represent the condition during the period of significance, specifically the Light Station (1901-1938) and Coast Guard (1939-1960) periods.

Clearing work along the shoreline banks shall be done carefully and selectively, and care should be taken not to initiate erosion by overworking the slope. The clay and till banks at the Outer Island Light Station are stable but have a high erosion potential. Experience has shown that erosion of the shoreline banks could result in the loss of portions of the light station landscape and possibly the loss of historic structures. Only through careful planning and management action will these banks be kept stable. This work may best be accomplished in an incremental manner with a sound erosion monitoring program in place and a plan for biostabilization of the banks.

An appropriate plan for long-term biostabilization must accompany any clearing and incorporate two key concepts. Firstly is the concept of the need for on-going operations and maintenance requirements. A properly biostabilized landform is not a static structure but is a dynamic system requiring close observation, regular maintenance, and periodic reevaluation. Secondly, a properly biostabilized landform is a harmonized, working plant community, evolving through vegetative succession, and filling environmental niches at the level of root, ground surface, understory, and canopy. Effective biostabilization will appear natural and not engineered and will require a community of plants which can establish themselves in a range of soil types, depths, aspects, grades, and moisture regimes. The development of a smoothed, homogenous and unnatural bank is to be avoided. The community of plants will utilize the natural slope contours and develop a mix of vigorous young growth, deep root systems, and more mature canopy elements to provide effective stabilization from a range of erosional threats including surface drainage down and seepage onto the slope face; lake action at the slope toe; impacts from precipitation; wind throw; and loss of understory through over mature canopy and excessive shading.

An area of approximately 1.2 acres has been identified as the area where the selective removal of large trees by hinge-felling will be most beneficial for views of the light station. Selective clearing within the identified area should be to sections of the shoreline bank further targeted that 1) could be damaged by large tree blowdown and 2) will best clear views to the Light Tower and Keepers Quarters from the water.

Periodic maintenance will include the evaluation of the biostabilization effort, the thinning and hinge-felling of large trees, and the lowering (but not removal) of unstable or overcrowded elements.

CIRCULATION/ACCESSIBILITY

The circulation patterns and features on the site remain and are important elements of the cultural landscape. The circulation patterns on the site were significantly improved in 1934 with the construction of the concrete tramway, tram tracks, and concrete walks. All of these improvements were installed to support the navigational and day-to-day operations of the light station. These features remain in much the same locations and patterns as they were during the Light Station period (1901–1938). The circulation features help to define the arrangement of the site and are important to the integrity of the cultural landscape. The treatment measures focus on retaining the circulation patterns and rehabilitating or preserving the circulation features. Features important to maintaining the integrity of the light station include the tramway, tram tracks and concrete walks. The treatment recommendations for the tramway and boat dock are described in the Structures section.

Tram Tracks

Maintain tram tracks between top of tramway and Fog Signal Building. The work includes minor vegetation removal, and the securing of tracks where needed.

Concrete Walks

Stabilize all concrete walks in their current, historic locations and configurations. A detailed description of treatment measures for concrete walks can be found in small scale features.

Trails and Paths

Maintain the trail leading south from the light station into the forest.

Accessibility (ABAAS)

An accessibility analysis separate from the CLR/HSR has been developed to provide an overall plan for the six light stations in the Apostle Islands – Raspberry, Michigan, Outer, Devils, Long, and Sand islands. This work is intended to address the light station system as a whole and the accessibility requirements to be achieved at each individual light station. The CLR/HSR incorporates the draft recommendations into each of the light station's plans. As part of an overall plan for the light stations, the following actions have been identified for the Outer Island Light Station. These actions are part of an accessibility plan for the six light stations of the Apostle Islands.

- Provide an outdoor accessible route to a new accessible NPS Vault Toilet (location to be determined by the Park Service)

Outdoor accessible routes shall meet the requirements of the ABAAS for width (36" minimum), slopes (less than 4.75%), and include passing areas. These requirements are readily achievable on the light station. Further discussion regarding the overall accessibility approach for the system of light stations is included in Volume I, Chapter 5: Management Issues and the Accessibility Report included in the Appendix.

STRUCTURES

There are several important structures within the light station. These features convey important details regarding the historical use and operation of the light station. Treatment recommendations are described in detail for major structures. In general, the recommendations for these features are focused on the preservation and maintenance of existing contributing features.

Tramway

Repair the tramway to a working condition. This work includes:

- Minor repair of cast iron tramway rails. The rails should be reattached where plates are missing, loose, or lacking bolts.
- Repair of the tramway railing including repair of attachments on the east side of concrete tramway and painting.
- Maintain the concrete tramway footings by ensuring that adequate soil and rock protection remains at the base of each abutment, particularly in eroded areas.
- Install a guardrail along the west side of the concrete tramway as portions of the tramway are well more than 30" above grade. Guardrail shall match the east side railing in basic form and materials.
- The tramway lacks a handrail meeting ABAAS standards; however installing a handrail meeting these standards will impede the use of the tram carts on the tramway.
- Recommendations for the tramway hoist are included in the HSR (Fog Signal Building).

Boat Dock

The boat dock should retain its current, historic location and general configuration. The general location of the boat dock has remained consistent since the Early Light Station period. The boat dock should be repaired as determined by the NPS. Further discussion regarding the boat dock is included in Volume I, Chapter 5: Management Issues.

SMALL SCALE FEATURES

There are numerous small scale features on the light station. These features provide a human scale to the cultural landscape while conveying important details regarding the history and use of the light station. Treatment recommendations are described in detail for contributing small scale features, and noncontributing features are presented in Table OI-4. In general, the recommendations for these features are focused on preservation and include:

- Retain all contributing small scale features.
- Retain noncontributing, compatible features including park and trail signs.
- Remove noncontributing, noncompatible features (with the exception of the Solar Panel and Battery unit, which will remain in place, and the fire pit, which will be relocated in the area southwest of the Fog Signal Building).

Concrete Walks

Maintain all concrete walks in the current, historic locations. Maintenance includes vegetation removal from joint and edges and minor leveling to eliminate trip hazards. Any replacement of damaged sections shall be completed with precast units matching the various dimensions of the existing concrete slabs,

1 poured and finished prior to installation. The finish of the replacement sections should match the finish of
2 the historic material including aggregate size, texture and tooling.

5 **Cistern and Pump Foundation**

6 Remove the existing wood cistern cover and replace with a new wood, lockable cover to secure the cistern
7 for safety purposes. Remove the top 12" of vegetation and soil from the pump foundation and replace with
8 clean gravel, provide a wood planking deck on the top of the pump foundation to better depict its use
9 during the period of significance.

12 **Original Flagpole**

13 Restore the original flagpole by replacing the wood mast pole with new mast pole matching the historic
14 material. Retain historic base columns if determined to be structurally sound at the time of construction. If
15 unsuitable, replace with matching new material. After repair, prep and paint white.

18 **Second Flagpole**

19 Maintain the flagpole by repainting the pole. Color shall be white, sample remnant paint from pole to
20 verify.

23 **Ladder Stand**

24 Repair the ladder stand retaining as much of the historic fabric as feasible. Replace the wooden columns
25 and reset in concrete footings. Retain beams and sister together as required. Replace decayed roof planks
26 with new material matching the dimensions of existing. Retain existing roof planks where possible. After
27 repair, prep and paint ladder stand white.

30 **USGS Marker**

31 Retain bronze marker in place.

34 **Park and Interpretive Signs**

35 Measures related to park signage is not included in the CLR. Interpretive signage on the light station is
36 addressed under the *Parks Long Range Interpretive Plan* and other studies. Additional discussion regarding
37 interpretation is included in Volume I, Chapter 5: Management Issues.

The following table (Table OI-4) provides recommendations for small scale features identified as noncontributing.

Table OI-4. Small Scale Features (Noncontributing)

Feature	Compatible?	Status
Park Sign	Noncontributing; Compatible	Not addressed in CLR
Interpretive Sign	Noncontributing; Compatible	Not addressed in CLR
Trail Sign	Noncontributing; Compatible	Retain trail signs
Propane Tanks	Noncontributing; Compatible	Remove propane tanks
Fire Pit	Noncontributing; Noncompatible	Relocate fire pit to compatible location
Solar Panel	Noncontributing; Compatible	Retain in place

VEGETATION

Reservation Vegetation

Light Station Clearing (Meadow)

As previously discussed under Spatial Organization, the cleared area of the light station reservation and the light station grounds has been substantially reduced from the period of significance. Historic photographs, drawings and correspondence from this period indicate the area outside and adjacent to the current light station grounds was cleared of forest trees and shrubs and vegetated with grasses and wildflowers. The treatment recommendation to address the light station clearing includes the removal of forest vegetation (approximately 1.2 acres) that has encroached into the historic cleared area of the light station, and the establishment of a meadow-like vegetation to reestablish the spatial qualities of the light station. This would reestablish approximately 43% of the clearing present during the period of significance. The meadow may contain native grasses, forbs, wildflowers, ground covers and compatible nonnative species. Additional study will be needed to develop a method of revegetation and a list of species that will be suitable and noninvasive as meadow species native to the island are limited. Clearing should also be done to maintain adequate fire protection from historic structures. For purposes of this study a general rule of a 50' break has been used. Further discussion on means and methods of clearing are discussed in Volume I, Chapter 5: Management Issues. Maintain newly cleared areas as meadow vegetation at a 12" to 24" height by mowing on a regular basis.

Areas of the light station reservation that are to remain forested should be monitored for invasive plants. Do not introduce potentially invasive plant material into the light station reservation.

Old Growth Buffer

Forest vegetation within the historic reservation includes both secondary and old growth northern hardwood hemlock stands. These areas should be protected from any impacts associated with clearing operations. Where possible, provide a minimum of 100' of forest buffer between the cleared area of the light station and the old growth forest southeast of the Light Tower and Keepers Quarters.

Station Vegetation

Historically, domestic landscape plantings, including ornamental plantings and vegetable gardens, played a role in the development cultural landscape of the Outer Island Light Station. Historic correspondence indicates that the lighthouse keepers planted and maintained both domestic ornamental plantings and vegetable gardens on the light station. The vegetable gardens were planted primarily for consumption by the keeper's families as the long distance between Outer Island and the mainland made trading or selling these impractical. While this tradition is documented in narrative, no extant vegetable gardens or historic photographs of gardens were found during the production of this report.

Several domestic ornamental plantings remain from the period of significance including the mountain ash and lilacs east of the Oil Storage building and the lilac east of the Fog Signal Building. The intent of this treatment recommendation is to maintain the extant, contributing landscape features with an emphasis on the late Light Station (1901-1938) and early Coast Guard (1939-1960) periods when the landscape plantings were most intact.

Recommended treatment actions include:

- Remove noncontributing domestic plantings from the light station including the junipers and serviceberry, south of the Fog Signal Building.
- Maintain the lilac shrub near southeast corner of Fog Signal Building.
- Maintain contributing domestic plantings on the light station including, mountain ash and lilacs near Oil Storage building.
- Remove all noncontributing trees in lawn area.

Light Station Clearing (Lawn)

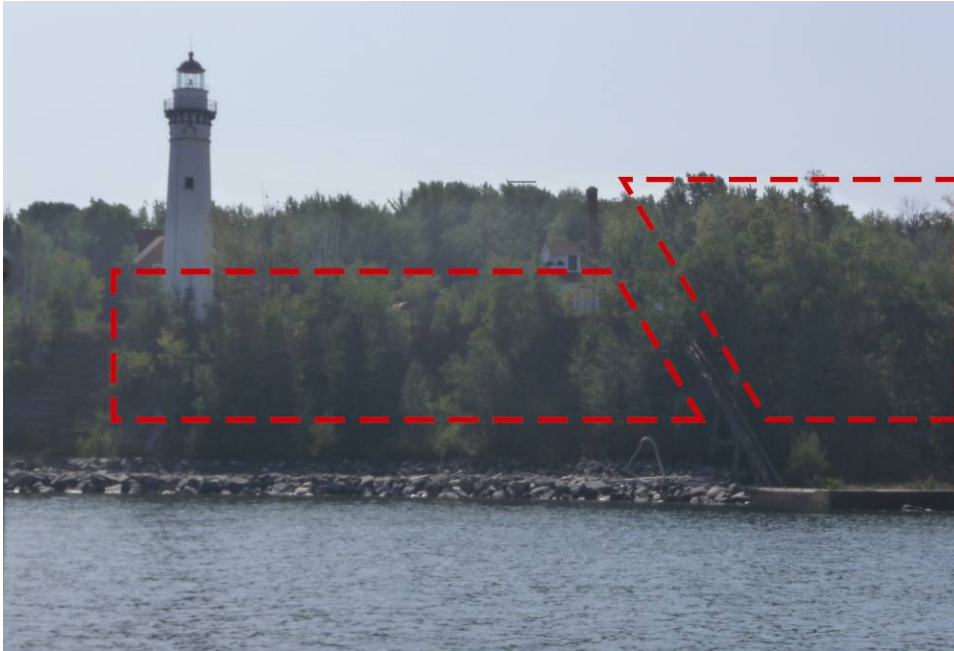
This treatment measure is a moderate expansion of the existing cleared lawn area (east of the Tower and Keepers Quarters) of approximately 3,500 square feet. The work includes clearing of forest trees, shrubs and ground covers and establishing lawn grasses in the newly cleared area. Maintenance includes regular mowing of the lawn area to discourage forest encroachment.

AREAS OF FURTHER INVESTIGATION

Archeological Investigations

Complete an archeological survey for all known resources in the light station (including the remnant cabin southeast of the Light Tower) using nondestructive investigations to document the extent of buried or nonvisible cultural resources, including the original foundation, that exist across the Island. Consider using ground penetrating radar and other noninvasive measures to assist in locating resources. If a comprehensive survey for the entire Island is not possible, complete archeological investigations for proposed projects in advance of any other work on the project, including demolition. In compliance with the National Historic Preservation Act, and in consultation with the NPS Midwest Archeological Center, undertake archeological investigations for all projects, as appropriate to their scale, impacts, and extent of ground disturbance.

1 ***Areas of Further Investigation Photographs***

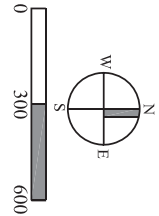
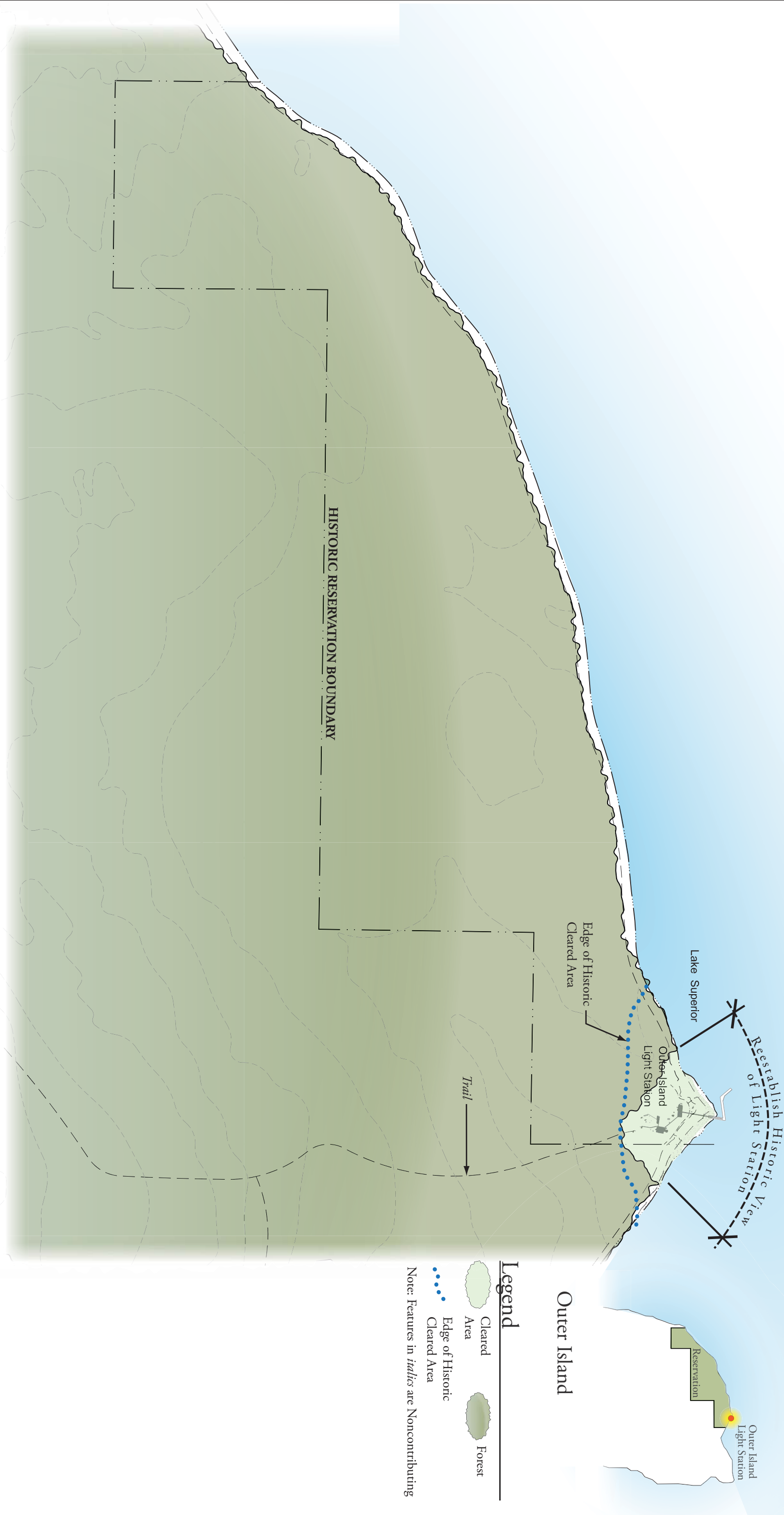


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3 *Site Image OI-77: Area of selective clearing for the restoration of views to the light station from Lake Superior, 2010*
4 *(Source: MBD P1010831_annotated.JPG)*



6
7 *Site Image OI-78: Historic condition of cleared area west of the Outer Island Tower/Keepers Quarters and Fog Signal*
8 *Building, c. pre-1901 (Source: NPS APIS Archives)*

Outer Island Reservation Preferred Treatment Alternative



PROJECT INFORMATION		TITLE OF PROJECT	
UNITED STATES DEPARTMENT OF THE INTERIOR APOSTLE ISLANDS NATIONAL LAKESHORE		HISTORIC STRUCTURE RECORD & ENVIRONMENTAL ASSESSMENT TREATMENT ALTERNATIVES	
100% 3/8/11		TITLE OF DRAWING OUTER ISLAND - RESERVATION BOUNDARY	
REGION MIDWEST		NAME OF PARK APOSTLE ISLANDS NATIONAL LAKESHORE	
COUNTY ASHLAND		STATE WISCONSIN	

