

National Park Service
U.S. Department of the Interior

Acadia National Park
Maine



Saint Croix Island International Historic Site

Environmental Assessment
Visitor Facilities Improvements



ENVIRONMENTAL ASSESSMENT
SAINT CROIX INTERNATIONAL HISTORIC SITE VISITOR FACILITIES
IMPROVEMENTS

April 2002

SAINT CROIX INTERNATIONAL HISTORIC SITE
Washington County • Maine

United States Department of the Interior • National Park Service

April 15 2002
Environmental Assessment
For
Saint Croix Island International Historic Site Visitor Facilities
Improvements
Saint Croix Island International Historic Site
Washington County, Maine

The National Park Service is proposing to make improvements to the Saint Croix Island International Historic Site (Saint Croix Island IHS) near Calais, Maine, to provide a better visitor experience at the mainland interpretive area, and to assure that the mainland facilities are handicapped-accessible in compliance with the Americans with Disabilities Act, Architectural Barriers Act of 1968 (P.L. 90-480), the Rehabilitation Act of 1973 (P.L. 93-112) and the Saint Croix Island IHS General Management Plan.

Work is proposed at two locations within Saint Croix Island IHS and includes (1) rehabilitating historic properties, replacing access stairway, and adding interpretive signs on Saint Croix Island; (2) developing an interpretive trail, re-constructing the access roadway and constructing new parking facilities at the mainland interpretive/observation area.

This Environmental Assessment has been prepared in accordance with the National Environmental Policy Act to evaluate the impacts of the project on the human environment and provide an opportunity for the public to review and comment on the project. Following public and agency review, the Director of the Northeast Region will make a determination concerning whether or not the project would result in significant impacts on the human environment. If the project would not significantly impact the human environment, the Regional Director will issue a "Finding of No Significant Impact." If the project would significantly impact the human environment, the Regional Director will issue a "Notice of Intent" to prepare an Environmental Impact Statement.

Written comments on this project and Environmental Assessment are encouraged and should be postmarked by May 15, 2002 and should be addressed to:

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SUMMARY

The National Park Service is proposing to make improvements at the Saint Croix Island International Historic Site to improve the visitor experience at the mainland observation area, and to assure that the facilities are handicapped-accessible in compliance with the Americans with Disabilities Act (ADA), Architectural Barriers Act of 1968 (P.L. 90-480), and the Rehabilitation Act of 1973 (P.L. 93-112).

The site consists of Saint Croix Island, an island in the Saint Croix River with culturally significant remains of one of the first French settlements in the New World. The site also includes land on the mainland that provides an overlook of the island. The Project consists of improving the mainland observation/interpretative area by adding an interpretive trail, adding parking and event areas, and improving access for persons with disabilities. Improvements on the island include rehabilitating a culturally significant structure, replacing the access stairway, adding signage, and revegetating an eroding slope. The improvements to the site are intended to maintain Saint Croix Island as undeveloped as possible because of its vulnerability and to focus interpretive efforts on the mainland. These changes should preserve primary site resources and provide interpretive and commemorative components that develop a sense of place surrounding the beginnings of a French legacy in North America.

In 1998, the National Park Service prepared a General Management Plan that included a Final Environmental Impact Statement for the site, and issued a Record of Decision. Subsequently the National Park Service has acquired additional land parcels within the site boundary and advanced the alternatives to a higher level of design. This Environmental Assessment (EA) has been prepared to evaluate alternatives for improvements that include the newly acquired parcels.

This EA presents the purpose and need for the Project, describes the alternatives that have been considered by the National Park Service, and evaluates the potential environmental effects of each action. An environmentally preferred alternative is presented.

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CHAPTER 1

PURPOSE AND NEED

The National Park Service (NPS) proposes to improve visitor access and interpretive facilities at the Saint Croix Island International Historic Site (IHS) near Calais, Maine. This Environmental Assessment (EA) has been prepared to comply with the requirements of the National Environmental Policy Act of 1969 (NEPA), the CEQ Regulations 40 CFR 1500-1508 and National Park Service guidance¹. It analyzes the proposed alternatives and their impacts on the environment. Most work proposed is rehabilitative in nature, and includes historic structure stabilization, visitor interpretation modifications and additions, and access improvements.

1.1 INTRODUCTION

Saint Croix Island IHS is the site of the initial attempt by the French to settle and colonize North America. It is the only international historic site designated in the National Park Service (NPS) and is administered by Acadia National Park. A *Final Environmental Impact Statement* (FEIS) and *Record of Decision* for the *Saint Croix Island IHS General Management Plan* (GMP) were prepared and issued in 1998, with a proposed course of action to preserve the primary resources on the island and develop modest visitor facilities on the mainland. The *Record of Decision* recommended that adjacent parcels of land within the park boundary be acquired in order to develop a more comprehensive visitor experience to the site. These mainland parcels have been acquired as recommended. This EA presents specific site designs at greater detail than were available for the GMP.

1.2 PURPOSE AND NEED

The purpose of the proposal is to improve the quality of the visitor experience at the Saint Croix Island International Historic Site and to protect cultural and natural resources. This would be accomplished by making the mainland observation/interpretive area fully accessible, developing an interpretive trail, and improving vehicular access, as well as rehabilitating and removing structures on the island.

Improvements to the Saint Croix Island International Historic Site are scheduled to be completed for the planned commemoration of the 400th anniversary of the French settlement at Saint Croix Island, which will occur in 2004. In association with the Parks Canada wayside exhibit in New Brunswick, the NPS would like to improve the quality of the visitor experience for this event. This need was expressed in a 1982 Memorandum of Understanding² between the NPS and the Department of Environment of Canada. As part of the recognition of the significance of the site to both nations, both countries agree to "develop facilities for interpretation and visitor use on the [respective] mainland across from the island." Improvements to the site need to occur to meet the requirements

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1 Conservation Planning, Environmental Impact Analysis and Decision Making, Director's Order 12 and Handbook. National Park Service, January 8, 2001.

2 The Memorandum Of Understanding, issued in 1982, is included in the General Management Plan as referenced in Chapter 4 of this Environmental Assessment.

of this international commitment and to enhance the service and quality of experience that the site offers.

Specifically, the proposal includes making the mainland portion of the site fully accessible, developing an interpretive trail, and improving vehicular access.

The proposal, to protect natural and cultural resources on Saint Croix Island, also includes rehabilitating and removing existing structures. A 19th century boathouse on the island's west shore would be rehabilitated. An oil storage building that was associated with the former light station on the island, would be demolished down to grade level foundation and any potential hazardous materials would be removed. Additional improvements to the island are proposed to reduce the level of environmental impact associated with park operations.

The primary issues driving the need for improvements to the Saint Croix IHS are preserving the cultural and historic integrity of the site and increasing interpretive and educational resources for the visitor. Specific issues include:

- The mainland interpretive/observation area trail, observation pavilion, and restrooms are not accessible to disabled persons.
- Vehicular parking at the site is inadequate for future needs.
- The existing steep driveway and small parking area are not adequate for bus access. Buses must park on the main road or back out of the driveway.
- Visitor educational and interpretive materials provided at the mainland and island portions of the Saint Croix IHS are inadequate for visitors to gain an understanding of the significance of the site.
- Archeological resources on Saint Croix Island need to be protected.
- Visitor use of Saint Croix Island has resulted in the deterioration of some natural resources, which require restoration.
- Saint Croix Island contains two structures that are historic but are not related to the primary historic significance of the site. These structures are in a deteriorated condition.

1.3 MISSION AND RELATIONSHIP TO OTHER PLANS

In the 1998 GMP the Park's mission is defined as follows:

"The National Park Service at Saint Croix Island International Historic Site preserves the site as a monument to the beginning of the United States and Canada. In cooperation with Parks Canada, the National Park Service educates the public about that heroic effort, its context, and its consequences."

This mission statement was formally adopted and identifies the primary purpose for the site. The site attempts to conserve unimpaired the resources and values of Saint Croix Island, an area of historic significance to the people of the United States and Canada, for the enjoyment, education, and inspiration of this and future generations.

The proposed improvements described in this EA would contribute to the realization of the Saint Croix IHS's Management Goals, articulated in the 1998 GMP, which are, in part, to:

- Manage the site to protect and maintain the natural and cultural resources of the historic site. Preserve the cultural resources that are associated with the 1604-1605 French colonization of North America, and the island itself, as managed within their broader cultural context, including other NPS and Parks Canada units interpreting early European colonization and contact with Native peoples. Also to preserve natural resources on the island and mainland parcels and manage them within a broader ecosystem and cultural context.
- Provide the public with an experience that allows for understanding and appreciation of the significance of the settlement on Saint Croix. Visitor and management facilities and transportation facilities would be made as accessible as practicable to all persons. Accessibility would be consistent with preserving park resources and providing a high-quality visitor experience. Buildings and sites in developed areas would be designed or rehabilitated to provide full accessibility to disabled persons.
- Provide a commitment to environmentally sound design that reinforces the cultural and natural resource values of the site. In a coordinated effort with other agencies and organizations in the United States and Canada, oversee the resources to be compatible and consistent with the management and operations of the National Park Service.

Along with the GMP, a *Long-Range Interpretive Plan* (NPS 1998a) provided the details necessary to put the recommendations of the general management plan into action. It focused on how the mission goals of the GMP could be implemented over time, relative to interpretation and education. As part of these long range plans, this EA incorporates the interpretive trail development on the mainland observation area and also interpretive panels on the island.

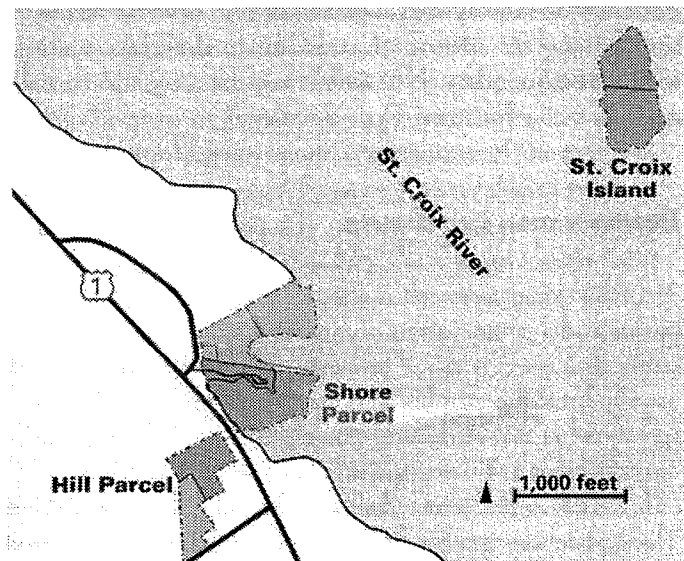
A *Draft Cultural Landscapes Inventory for Saint Croix Island International Historic Site* (NPS 1998b) was also developed. The purpose of the *Draft Cultural Landscape Report* was to provide detailed analysis of the IHS and guidelines for the park for future development of the site while preserving historical integrity. The focus of the assessment was to document and evaluate the historic development and existing conditions of the park's landscape. The inventory provides guidelines that allow for the rehabilitation of the island structures and landscape as well as the development of the mainland observation/interpretive area while ensuring the historic significance and integrity of the system is not lost over time.

CHAPTER 2 BACKGROUND

This section of the document describes Saint Croix Island IHS, its history, existing conditions and visitor use.

2.1 LOCATION AND SETTING

Saint Croix Island IHS is located on U.S. Route 1, about 6 miles south of Calais, Maine in the community of Red Beach, along the Saint Croix River between the United States and Canada (Figures 1, 2). The site consists of Saint Croix Island, a 6.5-acre island in the Saint Croix River and two mainland sections, one on the river shore overlooking the island and one on a hill west of Route 1. The total Federal ownership is approximately 30 acres. The portion of the park known as the mainland overlook acts as a visitor orientation area and access point. The hill parcel is a 4-acre area located inland. Its inclusion as part of the park is not evident to visitors and is not interpreted. The mainland observation/interpretive area (shore parcel) contains the visitor access and interpretation area of the park, which includes an entry road, parking area, unimproved boat ramp, vault toilet, maintenance shed, and viewing pavilion.

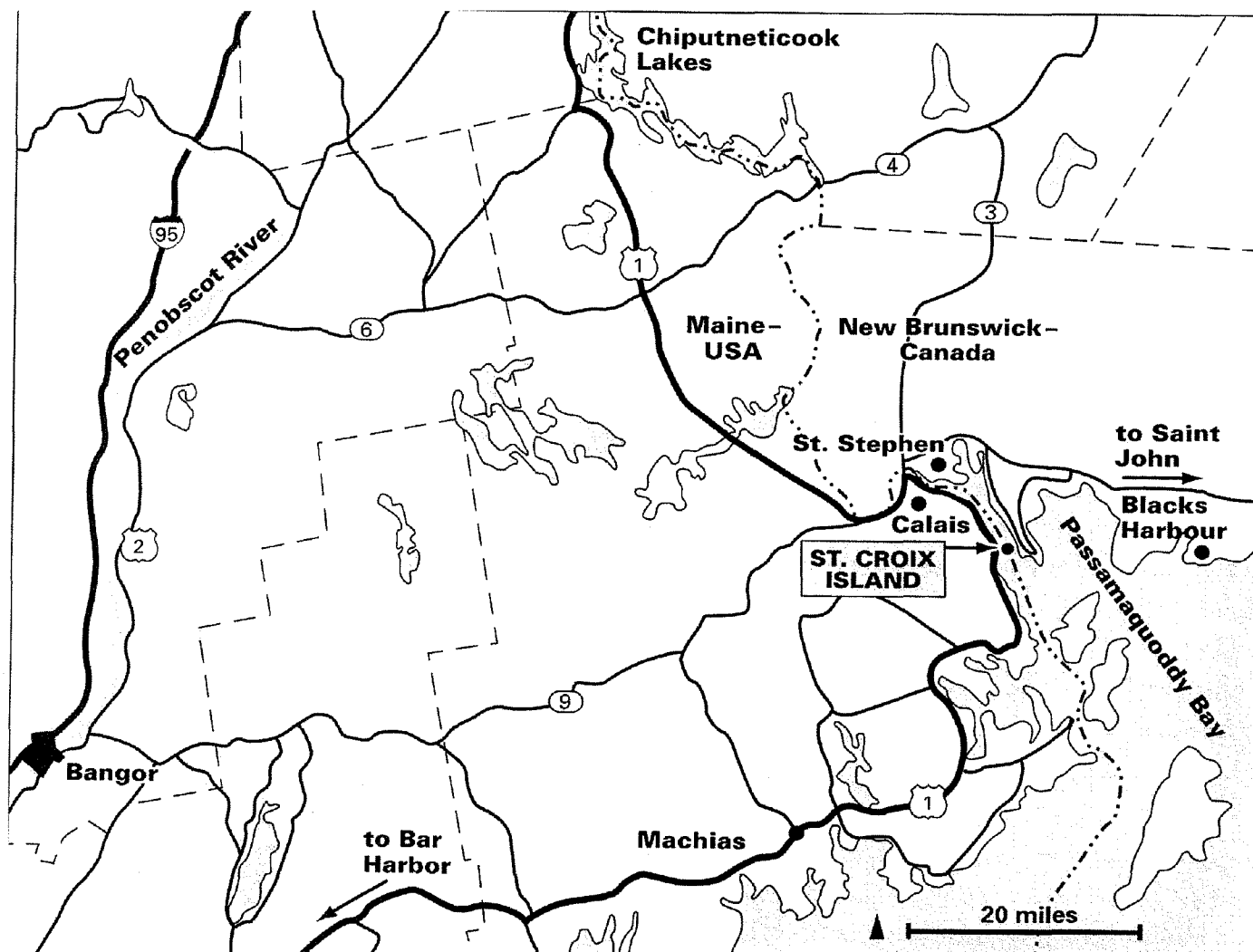


Saint Croix Island IHS island and mainland sections

The island contains open meadows, two structures, a small maintenance shed, and stairs connecting the plateau to a small beach that serves as a boat landing. The site is administered by the NPS through the Superintendent at Acadia National Park. This EA is concerned with the island and overlook properties, and does not address the use or rehabilitation of the hill parcel.

Saint Croix Island IHS is within the tidal estuary of the Saint Croix River, north of Passamaquoddy Bay. Acadia National Park lies 125 miles southwest of the island along the coast of Maine. Roosevelt Campobello International Park is situated at the mouth of Passamaquoddy Bay on the Bay of Fundy in New Brunswick, Canada, 45 miles southeast of Saint Croix Island IHS. Several other parks and attractions are in the vicinity including Moosehorn National Wildlife Refuge, 14 miles west and south of the site. The site is approximately a six-hour drive from the more densely populated areas of New Brunswick and Maine, and a long day's drive from urban centers of New England, the Maritime Provinces, and Quebec, Canada.

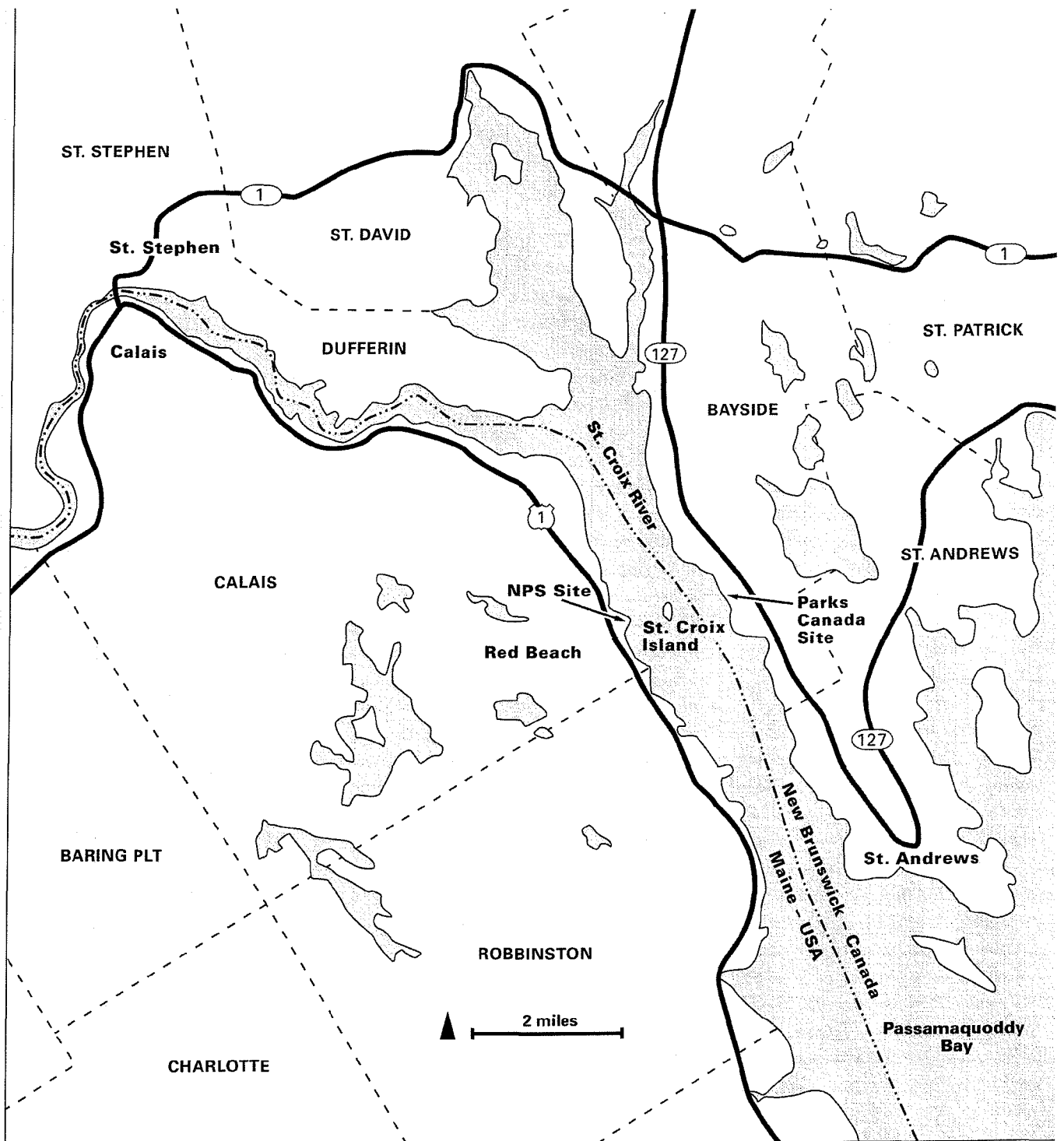
Parks Canada maintains an interpretive site on the east shore of the Saint Croix River in Bayside, New Brunswick. This location, on Route 127, allows visitors the opportunity to re-trace the footsteps of the 1604 expedition by reading panels as they walk along a footpath overlooking the island. The site also contains a viewing pavilion and parking area.



NATIONAL PARK SERVICE

Figure 1
Saint Croix Island IHS
Regional Context





NATIONAL PARK SERVICE

Figure 2
Saint Croix Island River Estuary



2.2 HISTORY AND SIGNIFICANCE

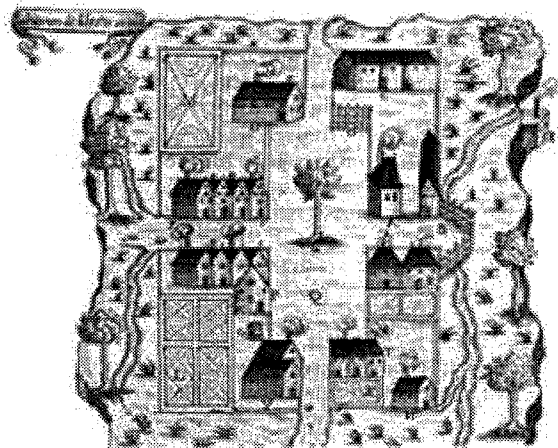
The Saint Croix Island IHS is one of the earliest European settlements on the North Atlantic coast of North America. Pierre Dugua Sieur de Mons, along with Samuel Champlain and 77 other men, attempted the first French year-round colonization in 1604. The lessons learned from their experience contributed to the successful foundation of a French presence in North America and an initial expansion into the Acadia region. Future settlements included Quebec, which Champlain founded in 1608. In the late eighteenth century, Saint Croix Island became a crucial element in the boundary determinations between the United States and the colonies in Canada.

Saint Croix Island was authorized as a national monument by the U.S. Congress on June 8, 1949 and, after additional land acquisitions, was formally dedicated on June 30, 1968. In 1984, the U.S. Congress redesignated the area as Saint Croix Island International Historic Site, in order to recognize the significance of the site to both the United States and Canada. Since 1998, two additional parcels of land have been acquired on the mainland.

The archeology of the region suggests that people have inhabited the Saint Croix River valley for at least 11,000 years. Evidence of human activity is also in the oral tradition of Native Americans of the area. Written history describes the past 400 years in the region, and lends support to the notion that the area was originally explored as a means for a passage to the Orient. In the 1500s, European settlement became a motivating force for the expansion into this region.

Members of the Passamaquoddy tribe and perhaps other groups of Wabanaki people inhabited the valley when in 1604 the French attempted to establish a settlement in the "New World." Pierre

³Dugua Sieurs de Mons chose the island for habitation since it provided a good anchorage, was defensible, and was centrally located in the region of Acadia that he was exploring. Dugua's expedition of 78 men, including Samuel Champlain (mapmaker and chronicler) barely survived a year. While there, Champlain explored and charted the coast of Norembegue (Norumbega), including the Bay of Fundy and along the coast as far as Cape Cod. Winter conditions and poor protection from the elements made survival hard for the first winter and led the pioneers in the following summer to move the settlement to a more favorable location of Port Royal, in present day Nova Scotia. The colony relocated to this more sheltered area and applied the lessons learned from their stay of Saint Croix Island to more successful settlements elsewhere. The island over time was visited and inhabited by various colonists.



Champlain's drawing of the island settlement. ³

3. Champlain's plan of the Saint Croix habitation (Ste-Croix Celebration 2000)

In the late 1700s, the island figured prominently in boundary delineation between the newly emerging United States and British North America. Based in part on Champlain's detailed history of the island settlement, the boundary lines were more clearly defined. Over time the island and surroundings have been inhabited and developed. Several families have owned the island and a variety of industries existed on the mainland.

During the middle years of the 19th century, the island was used as a sand quarry. Sand was taken from the northeastern and southern ends of the island. Several cannonballs were discovered and area believed to be remains from the 1604-05 French settlement. In 1856s, the northern portion of the island was sold to the U.S. government from private ownership for use as a light station. The light station was a one-and-a-half-story wood frame building with a light tower at the southern end of the roof. It was operated by the U.S. Coast Guard and functioned into the 20th century, with the exception of a 10-year period from 1859-1869, although the house itself, may have remained inhabited.

In 1904, the 300th anniversary of the French settlement at Saint Croix was commemorated. An international assembly of ships, including U.S., French, and British cruisers were part of the commemoration.

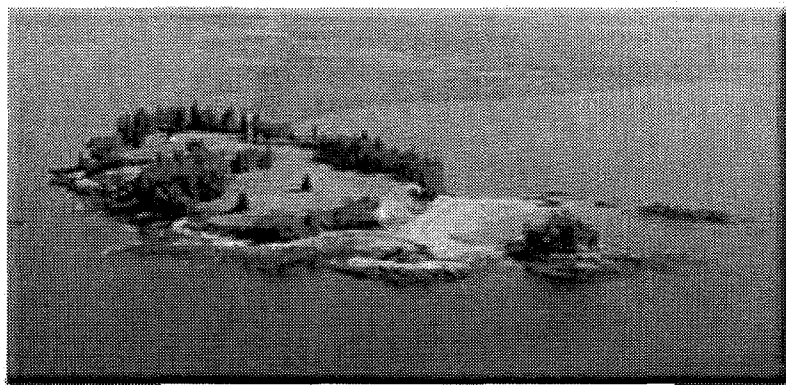
During the 1900s the mainland area became an industrial and residential area with dense development. The Red Beach Plaster Company and Maine Red Granite Company along with various shipping facilities occupied the banks around the site until the 1920s. The industrial development faded away by the mid 1900s and the mainland supported primarily rural residential use. The U.S. government acquired land during this period. The mainland interpretive/observation area now serves as the NPS visitor contact area with interpretive services and restroom.

The Wabanaki, and the Passamaquoddy in particular, were already present when the first French settlers arrived at Saint Croix, and they continue to visit or utilize the project area to the present day. For example, each year members of the Passamaquoddy tribe travel by canoe on the river and stop at Saint Croix Island. Ongoing research and consultation with the four Maine tribes will likely produce additional information on their traditional association with these lands. See section 5.2.1.

2.3 EXISTING CONDITIONS

Although both the island and mainland parcels contain a number of buildings and structures, none date to the primary period of significance of 1604 to 1605.

Saint Croix Island and its various archeological resources are the primary resources of the international historic site. The Island is a low level plateau primarily vegetated with a grassy meadow and small clumps of trees. The shoreline is rocky, with a small beach and sandy eroding



Aerial view of Saint Croix Island

bluff at the south end where visitors may access the island. The low island is similar in vegetation to the land on the Canadian shore and is difficult to identify from the mainland observation/interpretive area. The island contains a memorial boulder and a commemorative plaque that was placed in 1904 for the 300th anniversary at the historic settlement area. The light station was burned in 1976. However, two structures, an oil house and a boathouse, remain. The boathouse was determined eligible for the National Register of Historic Places by the NPS. The oil house was deemed ineligible. The U.S. Coast Guard maintains a modern navigation beacon atop a 45-foot metal tower. Two other structures on the island include a wooden stairway, providing access to the island plateau from the beach, and a small maintenance shed. There are no utilities on the island.

The primary mainland parcel of Saint Croix Island IHS is used for interpretation and as a means of reaching the island. Access to the mainland parcel from U.S. Route 1 is indirect, off Saint Croix Drive (See Figure 3). A steep paved driveway drops approximately 30 feet to the narrow level peninsula that contains the maintenance shed, vault toilet, and overlook pavilion. Lawn and open grassed slopes border this driveway. About 200 feet along the driveway on the north side, within a grassy patch, are two flagpoles. Along the south side of the driveway for about the same distance are a wooden fence and a grassy area that slopes down to the river.

Along with the park facilities, the mainland observation area also serves as access to a public boat ramp. The unimproved boat ramp is a cobble gravel ramp at the eastern edge of the point. There is no defined parking, but a gravel area at the boat ramp serves as the primary parking area for IHS visitors.

The primary feature of the mainland observation area is an open interpretive pavilion that offers a view of the island and seasonally houses a single, bilingual interpretive panel and site brochures. There are fifteen granite steps leading up from the boat ramp parking area to the pavilion. These steps make the pavilion inaccessible to people with disabilities. The pavilion is a stone and concrete building with a wooden roof. It faces the river and provides a view of Saint Croix Island to the north.



Mainland observation/interpretive area pavilion

An interpretive panel is attached to the east wall of the overlook during the visitor season. An unpaved walking trail leads through a wooded area from the pavilion to a single vault toilet. Near the restroom is a wooden maintenance shed that houses lawn equipment and supplies. From the shed a short gravel drive connects to the main paved driveway.

Along the northwest section of the mainland interpretive area are three houses within the authorized park boundary. North of the paved driveway along Saint Croix Road is a two-story, clapboard house (Robb House) that has recently been acquired by the NPS. The Robb House faces the road and is separated from the mainland observation area by a densely wooded area.



SCALE: 1" = 80

0 80

STONE & CONCRETE PAVILION
WITH WOODEN ROOF
FLOOR ELEVATION = 26.7'

BASE OF
BENT $\frac{1}{2}$ " ϕ
BOLT
IN ROCK

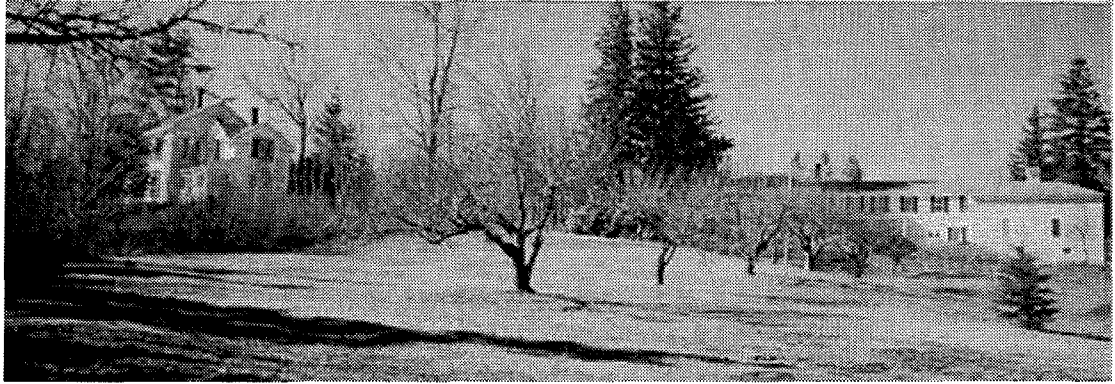
COBBLE
GRAVEL
RAMP

Figure 3
Existing Conditions



Northeast of this house, also along Saint Croix Road, is a long two-story yellow house (McGlashan-Nickerson-Sisk House) built around 1883 that is one of the most architecturally significant houses in Red Beach. This house is now owned by the NPS. Adjacent to the McGlashan-Nickerson-Sisk house and between this house and the overlook is an old apple orchard that contributes to the historic landscape of the house.

Northeast of this house is a private residence, the Pettegrove-Livingston House. A



Robb House and McGlashan-Nickerson-Sisk and adjoining orchard.

long, dirt drive leads to the house from Saint Croix Road, in front of the McGlashan-Nickerson-Sisk House. Both the McGlashan-Nickerson-Sisk and Pettegrove-Livingston houses are listed in the National Register of Historic Places.

In addition to the lawns, vegetation at the mainland observation area consists mainly of open park-like vegetation that includes spruce, fir, white pine, red oak, birch, and quaking aspen. The pavilion and walking trail are surrounded by these trees with much of the understory relatively clear. A more densely wooded area separates the mainland observation area from the Robb House and Saint Croix Road. Drainage and runoff is collected in a steep wooded swale and passes through a culvert under the gravel drive. It is then conveyed in a grassed swale along the paved drive, moves through a culvert under the paved road, and discharges to the beach.

One seasonal staff person maintains the grounds at the mainland observation area during the summer season. This NPS employee mows the fields and lawns on the mainland overlook and the island during the summer, as well as cleans the restrooms and removes trash from the mainland observation area.

2.4 VISITOR USE

Visitation to the mainland observation area has been estimated to be 12,000 to 15,000 visitors annually (NPS 1998a). These estimates derive from observations by NPS personnel in the 1985-1986 season, daily visitor counts kept by NPS maintenance employees during the 1987-1994 seasons, and a 1995 direct count of vehicles and extrapolation of passenger numbers. These numbers reflect visitation to the mainland interpretive/observation area, along with an estimated additional 10 percent to account for those visitors who bypass the mainland interpretive/observation area and go directly to the island.

The peak of visitation is during the months of July and August. Weekday averages appear to be slightly higher than weekend use for the mainland interpretive/observation area, although visitation

to the island primarily occurs on the weekends. Visitors to Saint Croix IHS include local residents, friends and relatives of local residents, area-destination tourists, or pass-through tourists. Due to the lack of visitor facilities and interpretive materials, many visitors simply use the mainland observation area for access to the boat ramp and for views of the river.

With the proposed mainland observation area improvements, visitation is estimated to be between 12,000 and 75,000 persons annually (Goody Clancy, & Associates 1995). This wide range is due to the preliminary nature of data collection, and the lack of certainty to the location, extent, and type of visitor service and interpretive elements. The relationship and coordination with Parks Canada and their exhibits are also expected to influence the number of visitors to Saint Croix Island IHS.

CHAPTER 3

DESCRIPTION OF ALTERNATIVES

The NPS developed the action alternatives described in this chapter based on the goals and the specific treatment recommendations presented in the GMP. All improvements to the Saint Croix Island IHS facilities would strive to minimize impacts to cultural and natural resources. The NPS has developed five alternatives for the proposed facility improvements to provide a full analysis of the potential environmental and visitor use impacts.

The No-Action Alternative, required by NEPA, is not a viable alternative but describes NPS management at the site as of the present. The No-Action Alternative is included as a baseline to compare the effects of other alternatives on the natural and human environment. Alternatives A, B, C, and D were developed to address the issues listed in Section 1.2 (See Table 1, page 14).

3.1 SAINT CROIX ISLAND

The GMP included management recommendations for preserving primary site resources and the sense of place that Saint Croix Island and the surrounding areas generate. The objectives of this facility improvements project are to preserve and protect the significant site resources and provide necessary interpretation and visitor services, while retaining the relatively natural and contemplative setting. The alternatives considered differ in their design and use of the mainland section of Saint Croix Island IHS. All alternatives would incorporate the same actions on Saint Croix Island.

The No-Action Alternative is a continuation of current maintenance practices (mowing) with no improvements.

Alternatives A, B, C and D all include the following actions:

- Stabilize the 19th century Saint Croix River Light Station boathouse on the west shore of the island. Repairs to the structure would primarily focus on roofing and siding, with some minor structural repairs. Trees (small spruce and fir) that are immediately adjacent to the structure will be removed to increase air circulation and help preserve the structure.

- Remove the 20th century oil house. The oil storage house, part of the light station, is not considered to enhance the island setting and is not historically relevant to the 1604 settlement (NPS 1998b).
- Re-establish native vegetation in the southern portion of the island to control erosion. Allow the grassy area to grow higher (less mowing), encourage shrub thickets to become established, and allow the vegetation on the upper plateau to undergo succession to some extent.
- Revegetate and stabilize the eroding bluff at the south end of the island. Use stabilization techniques to establish native vegetation and protect archeological resources from erosion.
- Rehabilitate the stairway that provides access to the upland portion of the island. The two flights of stairs and landing will be set into the ledge with a concrete pad poured at the base. The stairs will remain in their present location. A small sign at the base of the stairway would identify Saint Croix Island as an international historic site and inform visitors of the erosion control measures.
- Place self-guiding interpretive panels on the island for visitors. A 17th century French naval flag and flagpole will be installed so visitors on shore can more readily identify the island from the water and the mainland overlook.

3.2 DESCRIPTION OF MAINLAND ALTERNATIVES

An analysis (NPS 2000) was conducted to identify the values of Saint Croix Island IHS and to guide the value based decisions. The report originally examined alternatives based on the 1998 GMP, but this was subsequently revised with the addition of lands. Since the acquisition of lands on the mainland and issuance of the *Record of Decision*, four detailed alternatives have been developed that incorporate the following actions while maintaining a contemplative setting at the mainland observation area. Actions on the mainland common to all four alternatives include:

- Reconstruct the existing walking trail as a 400-foot interpretive trail.
- Reconstruct the walking trail to be fully accessible, and provide access that meets ADA standards to the pavilion and restroom.
- Re-orient the mainland observation area so that visitors access it from the new parking lot rather than from the boat ramp.
- Reconstruct the driveway and parking area to allow bus access into the mainland observation area.
- Install interpretive panels and statues that provide a point of interest and representative figures of the period.
- Install a 3-dimensional bronze model of the original island settlement in the overlook pavilion.
- Develop a parking and welcome area.
- Modify the drainage for the parking lot to prevent erosion. A grassed swale around the edge of the parking area (at the base of the cut slope) will discharge into a catch basin. A second catch basin will collect parking lot runoff. These basins will discharge into a rehabilitated swale along the road to the boat ramp.
- Install directional and identity signs.
- Provide potable running water.

A major element of all alternatives is the interpretive trail. The trail would be developed around the concept that the settlers came to the mainland section for any available supplies and to explore the surrounding area. The figures portrayed in the sculptures would represent settlers and Native Americans engaging in activities necessary for their survival.

Each of these enhancements has been designed to help improve the quality of the visitor experience at the mainland observation area in the long-term. All alternatives would retain the access driveway and the boat ramp. All the alternatives intend to re-orient the mainland observation area so there is visible and attractive parking and access to the overlook via the interpretive trail.

Tables 1 and 2 (pages 14 and 15) summarize the actions associated with each of the alternatives.

Table 1
Saint Croix Island IHS Improvements: Summary Comparison of Alternatives-Mainland

Issue	No Action	Alternative A	Alternative B	Alternative C	Alternative D (Preferred Alternative)
Improve visitor educational experience	No new facilities	New interpretive trail	New interpretive trail; visitor center	New interpretive trail; visitor center	New interpretive trail
Improve vehicular access	No change	Bus loop, single entry and exit	Bus loop, separate entry and exit	Bus loop, separate entry and exit	Bus loop, single entry and exit
Provide adequate parking	No change	17 parking spaces	20 parking spaces	17 parking spaces	15 parking spaces
Provide accessible facilities	No change	Accessible trail, overlook, and restroom	Partially accessible trails, overlook, and restroom	Partially accessible trail, overlook, and restroom	Accessible trail, overlook, and restroom
Protect natural resources	No change	Moderate cut and fill (1,155 cubic yards). Retaining wall at north end of parking loop	Moderate cut and fill (761 cubic yards)	Most cut and fill (11,000 cubic yards)	Least cut and fill (425 cubic yards)
Minimize construction cost	No change	\$560,000.00	\$570,000	\$750,000	\$600,000
Protect historic context	No change	Moderate visibility of site from road and island.	Moderate visibility of site from road and island.	Moderate visibility of site from road and island.	Least amount of site visibility from road and island.

Table 2

Saint Croix Island IHS Improvements: Summary Comparison of Alternatives-Island

Issue	No Action	Alternatives A, B, C, and D (Preferred Alternative)
Protect natural resources	No action	Restore vegetation on slope; Add signage
Protect cultural resources	No action	Rehabilitate the boathouse; stabilize slope to protect archeological resources.
Provide safe access	No action	Replace stairs; Demolish the oil house
Improve visitor understanding	No action	Install self-guiding interpretive panels

3.2.1 No-Action Alternative

In the No-Action Alternative, Saint Croix Island IHS would remain as it is today, with no improvements to access, interpretive services, or facilities. These facilities would continue to be deficient, and minimal interpretive services would remain. The existing maintenance (mowing and cleaning) would continue.

Mitigation Measures

No impacts would be anticipated and no mitigation would be required.

3.2.2 Alternative A

Alternative A (Figure 4) provides a single entryway/exit to the mainland observation area at the present location of the paved driveway and parking for up to 17 passenger vehicles along a one-way loop road originating from this main access. A bus turn-around and parking location would be installed along the loop. A retaining wall along the back of the parking lot area where it would meet the orchard would be needed to accommodate the required grading. A moderate amount of fill (1155 cubic yards) would be needed to stabilize the access road and parking area and bring the mainland observation area to grade for access standards. This fill would occur in the wooded area between the Robb House and the present location of the maintenance shed. The mainland observation area would include a small picnic and outdoor education area east of the driveway loop. The existing toilet would remain in its current location, just off the interpretive trail. The maintenance shed would be relocated further west, closer to Saint Croix Road. The flagpoles would be moved to the south side of the driveway, closer to the entrance. There would be no access to the Robb House. The cost associated with this alternative is approximately \$560,000.

In addition to the mainland improvements, those actions described for the island improvements would be part of Alternative A.

Mitigation Measures

This section describes the mitigation measures included in Alternative A to avoid or reduce potential impacts to these resources.

Park Operations / Visitor Experience

In order to minimize the disruption to mainland observation area operations, visitor experience, and to residents and local businesses, any proposed construction would be done in the shoulder months (May to June and September to October).

Cultural Resources

Any ground-disturbing activities, which may include removal of the oil house or stabilization of the gravesite and foundations on the island or excavation for the mainland section, will be accompanied by archeological investigations prior to disturbance. If any archeological resources are encountered during construction preparations, construction will be immediately halted so that the resources may be evaluated and retrieved. Rehabilitation of the boathouse is minor in nature and has been reviewed extensively by NPS staff and cultural resource compliance advisors. Where possible, repairs and replacement will be conducted to avoid the appearance of any change in the material or method of construction, or will be reversible. Where possible, repairs and replacement will be conducted to avoid the appearance of any change in the material or method of construction, or will be reversible, in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings*.

Natural Resources

Mitigation measures would be used to avoid impacts to water resources at the mainland observation area. Erosion and sediment control would be used during construction on the mainland overlook to prevent water quality impacts. These would include restrictions on the use of heavy equipment and the use of temporary construction-period best management practices to prevent erosion and control sedimentation (installing staked hay bales; temporary mulching or stabilization of disturbed soil; seeding with native grasses to provide permanent stabilization). Slope stabilization techniques would be used on the island to stabilize the banks and reduce erosion and vegetation losses. These techniques include use of rolls of fascines, and using materials such as coconut fibers, straw, or wood shavings. The landscape planting around the parking areas and throughout the interpretive trail on the mainland would minimize the impacts of construction. The construction work area would be monitored for three years following the placement of fill material for invasive, non-native plant species. The least toxic management practices will be used to manage any invasion of non-native plants. Alternative A would include landscaping the interpretive trail to maintain the rustic nature of the mainland observation area and enhance visitor experiences along the trail.

Socioeconomic Environment

Mitigation measures would be used to avoid impacts to the socioeconomic environment at and near the mainland observation area. Signs and efficient site layout would improve traffic and pedestrian safety at the mainland section. Mitigation for the minor impacts to the socioeconomic environment will include advance announcements of the visitor facilities improvement project schedule and temporary closings of the mainland observation area. Material at the pavilion would reference a regional visitor center that would be established in Calais for further information on the historic site.

3.2.3 Alternative B

This Alternative (Figure 5) would incorporate the most land for the improvements. It provides parking for 20 passenger vehicles, a one-way bus drive-through route and parking with a separate entry and exit. Parking would be provided along both sides of the entrance driveway, with bus and handicapped parking in the lower lot near the picnic area. The bus exit driveway would loop out through the orchard and would use the existing driveway between the Robb House and the MaGlashan-Nickerson-Sisk House. This alternative would require a minimal amount of fill (761 cubic yards), however, it would require a large amount of new pavement (1458 square yards) for the parking area and drive. A large picnic and outdoor education area (0.25 acre) would be placed to the northeast side of the parking area and extend into the adjacent orchard. The existing maintenance shed would be removed and maintenance and administrative functions would be provided in the existing Robb House. A visitor center would also be developed in the Robb House. The existing toilet would remain at its current location. The stairs leading from the Robb House to the mainland observation activity areas would remain, as would the granite stairs leading to the pavilion from the boat ramp. The cost associated with this alternative is approximately \$570,000.

In addition to the mainland improvements, those actions described for the island improvements would be part of Alternative B.

Mitigation Measures

This section describes the mitigation measures included in Alternative B to avoid or reduce potential impacts to these resources.

Park Operations / Visitor Experience

In order to minimize the disruption to the mainland observation area operations, visitor experience, and to residents and local businesses, any proposed construction would be done in the shoulder months (May to June and September to October). Alternative B would include landscaping the interpretive trail which would maintain the rustic nature of the mainland observation area and enhance the visitor experience along the trail.

Cultural Resources

Any ground-disturbing activities, which may include removal of the oil house or stabilization of the gravesite and foundations on the island or excavation for the mainland section, will be accompanied by archeological investigations prior to disturbance. If any archeological resources are encountered during construction preparations, construction will be immediately halted so that the resources may be evaluated and retrieved. Rehabilitation of the boathouse is minor in nature and has been reviewed extensively by NPS staff and cultural resource compliance advisors. Where possible, repairs and replacement will be conducted to avoid the appearance of any change in the material or method of construction, or will be reversible. Where possible, repairs and replacement will be conducted to avoid the appearance of any change in the material or method of construction, or will be reversible, in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings*. Screening along the northern edge of the driving loop would reduce the visual impact on the landscape.

Natural Resources

Mitigation measures would be used to avoid impacts to water resources at the mainland observation area. Erosion and sediment control would be used during construction on the mainland overlook to prevent water quality impacts. These would include restrictions on the use of heavy equipment and the use of temporary construction-period best management practices to prevent erosion and control sedimentation (installing staked hay bales; temporary mulching or stabilization of disturbed soil; seeding with native grasses to provide permanent stabilization). Slope stabilization techniques would be used on the island to stabilize the banks and reduce erosion and vegetation losses. These techniques include use of rolls of fascines, and using materials such as coconut fibers, straw, or wood shavings. The landscape planting around the parking areas and throughout the interpretive trail on the mainland would minimize the impacts of construction. The construction work area would be monitored for three years following the placement of fill material for invasive, non-native plant species. The least toxic management practices will be used to manage any invasion of non-native plants. Alternative B would include landscaping the interpretive trail to maintain the rustic nature of the mainland observation area and enhance visitor experiences along the trail.

Socioeconomic Environment

Mitigation measures would be used to avoid impacts to the socioeconomic environment at and near the mainland observation area. The screening of the drive for Alternative B would reduce visual impacts and maintain the character of the landscape around the adjacent historic homes. Material at the visitor center would reference a regional visitor center that would be established in Calais for further information on the historic site.

Signs and efficient site layout would improve traffic and pedestrian safety at the mainland section. Mitigation for the minor impacts to the socioeconomic environment will include advance announcements of the visitor facilities improvement project schedule and temporary closings of the mainland observation area.

3.2.4 Alternative C

This Alternative (Figure 6) would incorporate all the property within the authorized boundary. This alternative provides parking for 17 passenger vehicles, a one-way bus drive-through route and parking with a separate entry and exit. The short bus loop, through the upper bus and handicapped parking area, would exit back onto Saint Croix Road south of the Robb House. Part of the development of the bus parking area would occur in the state right-of-way near the existing entrance to the mainland observation area and would require an agreement with the Maine Department of Transportation. Grading within the right-of-way would be needed to realign the entrance and to develop the parking and welcome area. A mid-level parking lot would accommodate most vehicles, and a lower handicapped parking area at the restroom level would provide access to the interpretive trail. This alternative would require the most amount of fill (11,000 cubic yards) of all the alternatives evaluated.

The Robb House would be remodeled and expanded to accommodate a visitor center, administrative functions and maintenance facilities. This visitor center would include restroom facilities, in addition to the current vault toilet. The house would be integrated into the mainland observation area more fully by a trail that would connect the upper and lower portions of the mainland

observation area. This trail would not be accessible for the disabled due to the extreme gradient in topography. The cost associated with this alternative is approximately \$750,000.

In addition to the mainland improvements, those actions described for the island improvements would be part of Alternative C.

Mitigation Measures

This section describes the mitigation measures included in Alternative C to avoid or reduce potential impacts to these resources.

Park Operations / Visitor Experience

In order to minimize the disruption to the mainland observation area operations, visitor experience, and to residents and local businesses, any proposed construction would be done in the shoulder months (May to June and September to October). Alternative C would include landscaping the interpretive trail which would maintain the rustic nature of the mainland observation area and enhance the visitor experience along the trail.

Cultural Resources

Any ground-disturbing activities which may include removal of the oil house or stabilization of the gravesite and foundations on the island or excavation for the mainland section will be accompanied by archeological investigations prior to disturbance. If any archeological resources are encountered during construction preparations, construction will be immediately halted so that the resources may be evaluated and retrieved. Rehabilitation of the boathouse is minor in nature and has been reviewed extensively by NPS staff and cultural resource compliance advisors. Where possible, repairs and replacement will be conducted to avoid the appearance of any change in the material or method of construction, or will be reversible. Where possible, repairs and replacement will be conducted to avoid the appearance of any change in the material or method of construction, or will be reversible, in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings*. Screening along the driving loop would reduce the visual impact on the landscape.

Natural Resources

Mitigation measures would be used to avoid impacts to the water resources at the mainland observation area. Erosion and sediment control would be used during construction on the mainland overlook to prevent water quality impacts. These would include restrictions on the use of heavy equipment and the use of temporary construction-period best management practices to prevent erosion and control sedimentation (installing staked hay bales; temporary mulching or stabilization of disturbed soil; seeding with native grasses to provide permanent stabilization). The landscape planting around the parking areas and throughout the interpretive trail would minimize the impacts of construction. The construction work area would be monitored for three years following the placement of fill material for invasive, non-native plant species. The least toxic management practices will be used to manage any invasion of non-native plants. Alternative C would include landscaping of the interpretive trail which would maintain the rustic nature of the mainland observation area and enhance the visitor experience along the trail.

Socioeconomic Environment

Mitigation measures would be used to avoid impacts to the socioeconomic environment at and near the mainland observation area. Signs and efficient site layout would improve traffic and pedestrian safety at the mainland section. Mitigation for the minor impacts to the socioeconomic environment will include advance announcements of the visitor facilities improvement project schedule and temporary closings of the mainland observation area.

3.2.5 Alternative D (Preferred Alternative)

Alternative D (Figure 7) would be similar to Alternative A and provide a single entryway/exit to the mainland observation area at the present location of the paved driveway and parking for up to 15 passenger vehicles along a one-way loop road originating from this main access. The loop would extend into the orchard and back through the wooded area. The least amount of fill (425 cubic yards) would be needed for this alternative. Parking would include two handicapped spaces and a bus parking area. Eight overflow parking spaces would be located on the grass area south of the driveway. No retaining wall would be needed. The picnic/outdoor education area would be northeast of the parking area and would extend slightly into the orchard. Intrusion into the orchard would be minimal with this alternative. The vault toilet would be relocated and adjacent to the parking loop. The entire mainland observation area would be accessible. An accessible trail would connect the parking lot with the interpretive trail. The maintenance shed would be relocated to an appropriately designated site. The Robb House would be available to be included in future park operations and for additional restrooms to serve the mainland observation area, but is not included in this alternative because of cost considerations and the possible development of a regional visitor center in Calais. The cost associated with this alternative is approximately \$600,000.

In addition to the mainland improvements, those actions described for the island improvements would be part of Alternative D.

Mitigation Measures

This section describes the mitigation measures included in Alternative D to avoid or reduce potential impacts to these resources.

Park Operations / Visitor Experience

In order to minimize the disruption to the mainland observation area operations, visitor experience, and to residents and local businesses, any proposed construction would be done in the shoulder months (May to June and September to October). Alternative D would include landscaping the interpretive trail which would maintain the rustic nature of the mainland observation area and enhance the visitor experience along the trail.

Cultural Resources

Any ground-disturbing activities which may include removal of the oil house or stabilization of the gravesite and foundations on the island or excavation for the mainland section will be accompanied by archeological investigations prior to disturbance. If during construction previously unknown archeological resources are discovered, all work in the immediate vicinity of the discovery would be halted until the resources could be identified and documented and an appropriate mitigation strategy developed in consultation with the state historic preservation officer. Rehabilitation of the boathouse is minor in nature and has been reviewed extensively by NPS staff and cultural resource compliance

advisors. Where possible, repairs and replacement will be conducted to avoid the appearance of any change in the material or method of construction, or will be reversible, in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings*.

Natural Resources

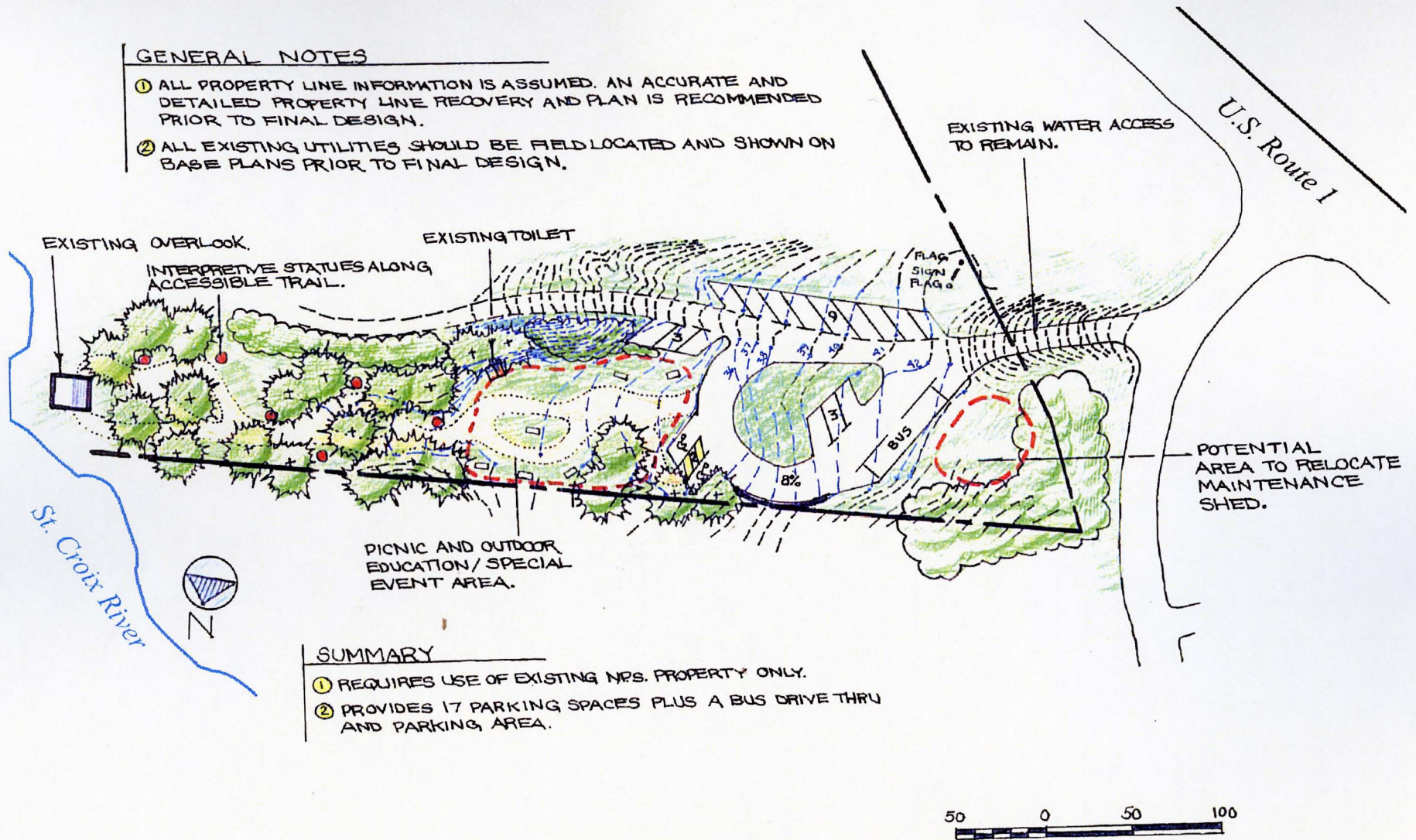
Mitigation measures would be used to avoid impacts to the water resources at the mainland observation area. Erosion and sediment control would be used during construction on the mainland overlook to prevent water quality impacts. These would include restrictions on the use of heavy equipment and the use of temporary construction-period best management practices to prevent erosion and control sedimentation (installation of staked hay bales; temporary mulching or stabilization of disturbed soil; seeding with grass species to provide permanent stabilization). The landscape planting around the parking areas and throughout the interpretive trail would minimize the impacts of construction. The construction work area would be monitored for three years following the placement of fill material for invasive, non-native plant species. The least toxic management practices will be used to manage any invasion of non-native plants. Alternative D would include landscaping of the interpretive trail which would maintain the rustic nature of the mainland observation area and enhance the visitor experience along the trail. Alternative D would also include stabilization of the embankments along the eastern edge of the mainland observation area where necessary.

Socioeconomic Environment

Mitigation measures would be used to avoid impacts to the socioeconomic environment at and near the mainland observation area. Signs and efficient site layout would improve traffic and pedestrian safety at the mainland section. Mitigation for the minor impacts to the socioeconomic environment will include advance announcements of the visitor facilities improvement project schedule and temporary closings of the mainland observation area.

GENERAL NOTES

- ① ALL PROPERTY LINE INFORMATION IS ASSUMED. AN ACCURATE AND DETAILED PROPERTY LINE RECOVERY AND PLAN IS RECOMMENDED PRIOR TO FINAL DESIGN.
- ② ALL EXISTING UTILITIES SHOULD BE FIELD LOCATED AND SHOWN ON BASE PLANS PRIOR TO FINAL DESIGN.



SUMMARY

- ① REQUIRES USE OF EXISTING NPS PROPERTY ONLY.
- ② PROVIDES 17 PARKING SPACES PLUS A BUS DRIVE THRU AND PARKING AREA.

NATIONAL PARK SERVICE

Figure 4
Mainland Improvements - Alternative A



GENERAL NOTES

- ① ALL PROPERTY LINE INFORMATION IS ASSUMED. AN ACCURATE AND DETAILED PROPERTY LINE RECOVERY AND PLAN IS RECOMMENDED PRIOR TO FINAL DESIGN.
- ② ALL EXISTING UTILITIES SHOULD BE FIELD LOCATED AND SHOWN ON BASE PLANS PRIOR TO FINAL DESIGN.

EXISTING OVERLOOK

INTERPRETIVE STATUES ALONG ACCESSIBLE TRAIL

EXISTING TOILET

EXISTING WATER ACCESS TO REMAIN.

U.S. Route 1

SUMMARY

- ① REQUIRES USE OF EXISTING NPS. PROPERTY AND (PHASE II) "WHITE HOUSE" (PARCEL 105) AND "YELLOW HOUSE" (PARCEL 104) PROPERTIES. (WILLING SELLER/BUYER)
- ② PROVIDES 20 PARKING SPACES PLUS A BUS DRIVE THRU AND PARKING AREA.



PICNIC AND OUTDOOR EDUCATION/SPECIAL EVENT AREA. 1/4 ACRE.

SCREEN THIS EDGE.

EXISTING "WHITE HOUSE" FOR MAINTENANCE AND ADMINISTRATION FUNCTIONS.

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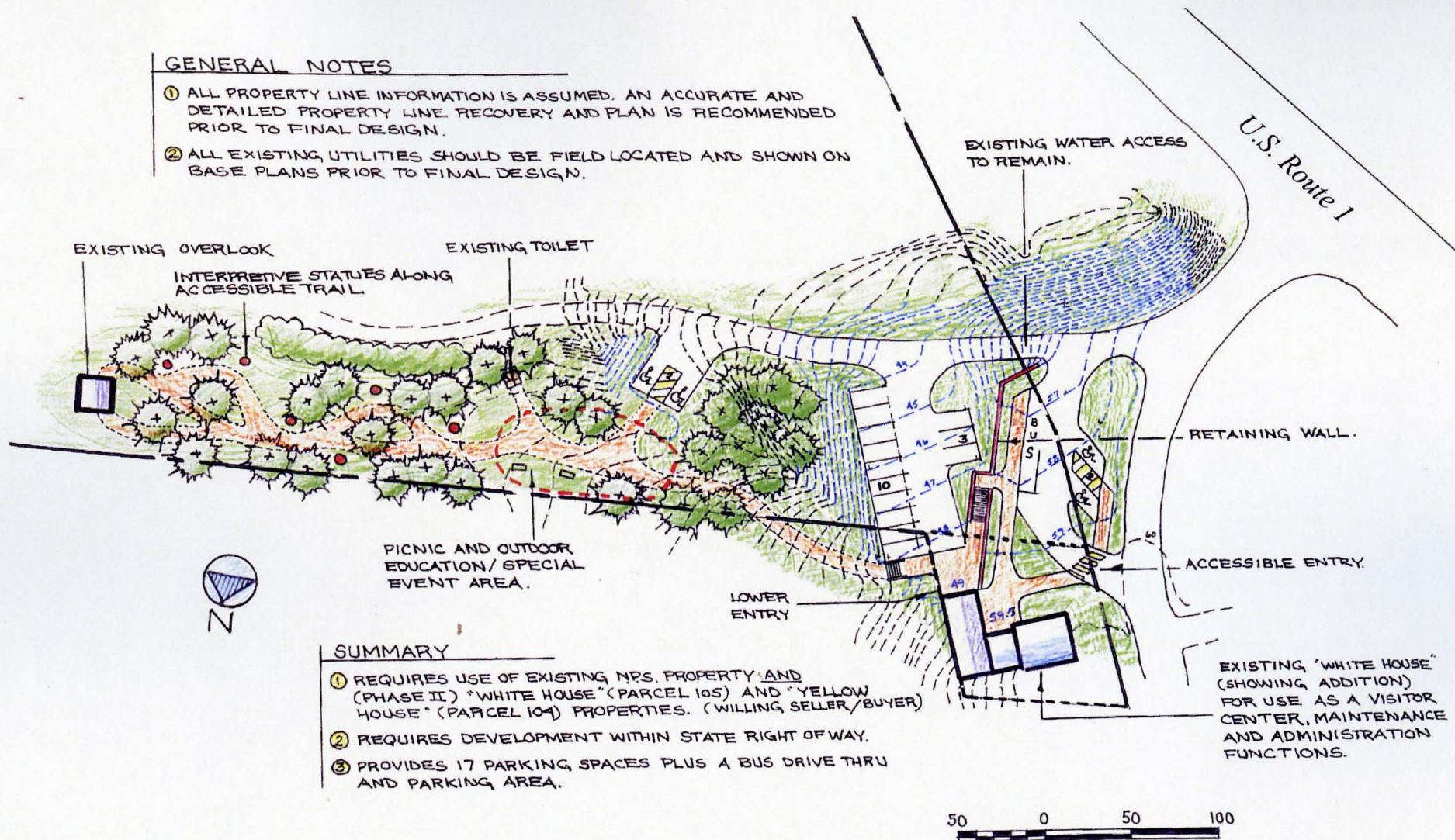
NATIONAL PARK SERVICE

Figure 5
Mainland Improvements - Alternative B



GENERAL NOTES

- ① ALL PROPERTY LINE INFORMATION IS ASSUMED. AN ACCURATE AND DETAILED PROPERTY LINE RECOVERY AND PLAN IS RECOMMENDED PRIOR TO FINAL DESIGN.
- ② ALL EXISTING UTILITIES SHOULD BE FIELD LOCATED AND SHOWN ON BASE PLANS PRIOR TO FINAL DESIGN.



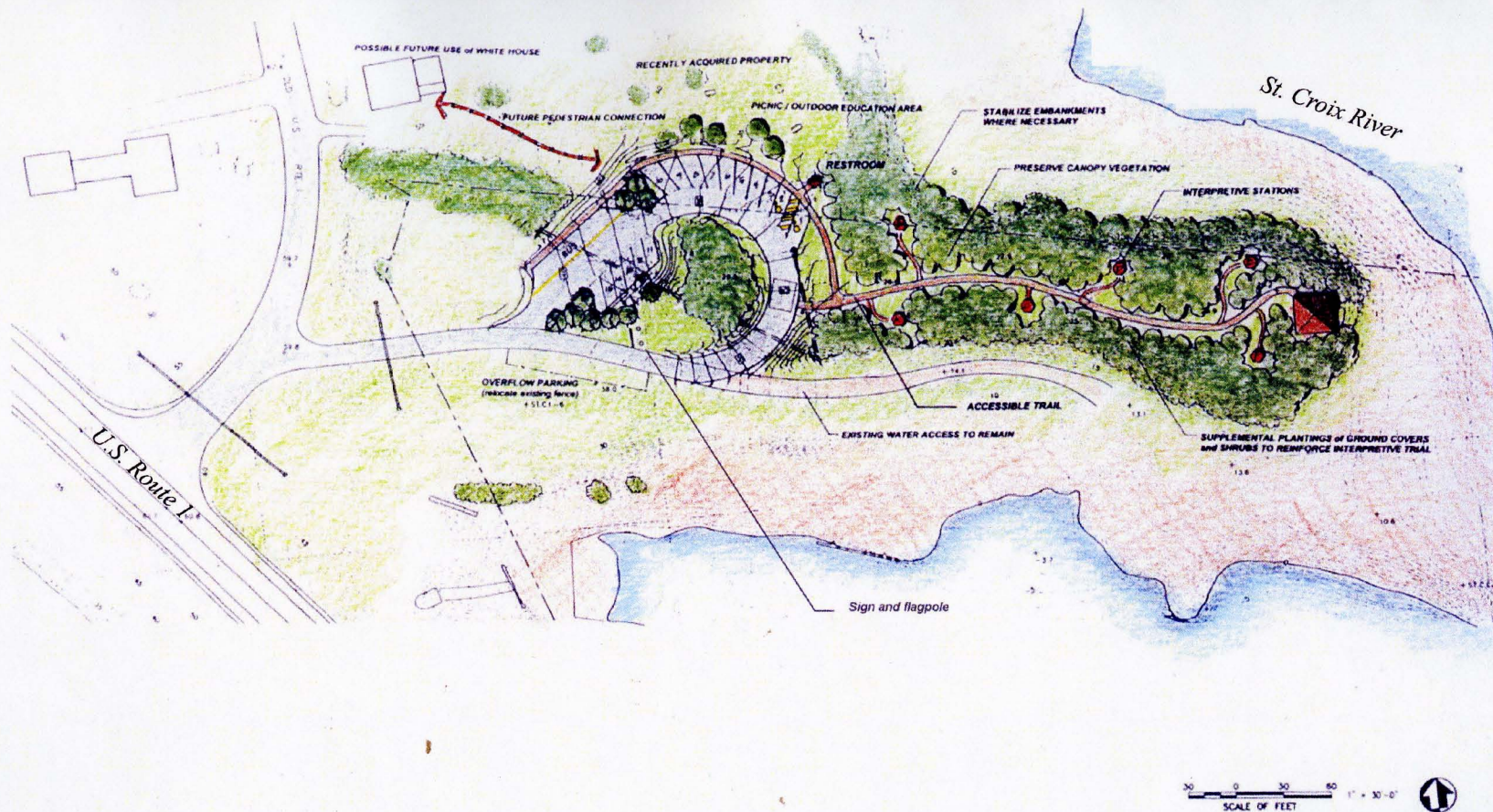
SUMMARY

- ① REQUIRES USE OF EXISTING NPS PROPERTY AND (PHASE II) "WHITE HOUSE" (PARCEL 105) AND "YELLOW HOUSE" (PARCEL 104) PROPERTIES. (WILLING SELLER/BUYER)
- ② REQUIRES DEVELOPMENT WITHIN STATE RIGHT OF WAY.
- ③ PROVIDES 17 PARKING SPACES PLUS A BUS DRIVE THRU AND PARKING AREA.

NATIONAL PARK SERVICE

Figure 6
Mainland Improvements - Alternative C





Summary

1. Requires use of existing NPS property only (includes recently acquired parcel)
2. Provides 16 designated parking spaces and bus pullout. Overflow parking for 8 to 10 cars.

General Notes

1. All property line information is assumed. An accurate and detailed property line recovery and plan is recommended prior to final design
2. All existing utilities should be field located and shown on base plans prior to final design

NATIONAL PARK SERVICE

Figure 7
Mainland Improvements - Alternative D



3.3 ENVIRONMENTALLY PREFERRED ALTERNATIVE

The selection of the environmentally preferred alternative is determined by applying the criteria in the National Environmental Policy Act of 1969 (NEPA) which is guided by the Council on Environmental Quality (CEQ) regulations. CEQ regulations provide direction that "... the environmentally preferable alternative is the alternative that will promote the National Environmental Policy as expressed in NEPA's Section 101:

- fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;
- assure for all generations safe, healthful, productive, and esthetically and culturally pleasing surroundings;
- attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences;
- preserve important historic, cultural and natural aspects of our national heritage and maintain, wherever possible, an environment that supports diversity and variety of individual choice;
- achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities; and
- enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources."

The No-Action Alternative would result in continued adverse impacts to cultural resources and would not meet the project purpose. Each of the action alternatives would result in short-term impacts to the quality of the visitor experience as the interpretive, parking, and outdoor event areas were developed. There would be a long-term improvement in the quality of the experience once these components were completed.

Based on the analyses presented in Chapter 4, the NPS has identified Alternative D as the environmentally preferred alternative. This alternative meets the purpose and need of the project by enhancing the interpretive experience of the visitor and minimizing the impacts on cultural and natural resources at the mainland observation area. In addition, this alternative brings the facility into compliance with Federal regulations for accessibility. Requiring the least amount of excavation of any of the alternatives, Alternative D provides the more cost effective course of action. There would be minimal alteration of the landscape with Alternative D. The loss of vegetation for placement of the parking facilities and interpretive trail would be designed to minimize visual impacts and would not impair important park resources but instead produce a contemplative setting and a sense of place for the reflection of events at the historic site.

Minimal development, a more natural setting, fewer visual intrusions, and on-site interpretive panels will foster a sense of respect for the events that took place on this internationally historic island. Alternative D is the environmentally preferred alternative because it preserves the cultural features and best promotes appreciation of the cultural heritage of the site, while minimizing the construction necessary for improvements to the site.

CHAPTER 4

AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

The National Environmental Policy Act (NEPA) requires that environmental documents disclose the environmental impacts of the proposed Federal action, reasonable alternatives to that action, and any adverse environmental effects that cannot be avoided should the Preferred Alternative be implemented. This Chapter examines the potential impacts to natural and cultural resources, park operations and the visitor experience that could result from each of the alternatives considered. Impacts are considered to the resources that may reasonably be expected to be affected by the project. In addition, NPS policy also requires that "impairment" of resources be evaluated in all environmental documents. All components of the Project would be carried out in such a way that the goals as described in the GMP are advanced. All improvements would be designed and implemented in such a way as to minimize impacts to historic features.

4.1 DEFINITIONS

The analysis of impacts considers direct, indirect, and cumulative impacts, with a particular emphasis on the potential for any impact or action to impair the resources or values of the site.

Temporary impacts are anticipated to occur during construction only. On completion of construction, conditions are expected to return to those that existed prior to construction.

Direct impacts are caused by the alternative at the same time and in the same place as the action. These may be short-term (extending past the construction period, but not anticipated to last more than a few years) or long-term (extending past the construction period into the foreseeable future).

Indirect impacts are caused by the action, but would occur at a later time or in a different location than the action itself.

Impacts may be characterized by their level. Negligible impacts are not measurable or discernable. Minor impacts are changes or disruptions that do not result in a substantial resource impact. Major impacts are easily defined and measurable, and result in a substantial impact to the resource.

Impairment, as defined in Section 4.1.5 of the NPS Management Policies (NPS 2001) is an impact that would harm the integrity of a park resource or value whose conservation is:

- necessary to fulfill specific purposes identified in the establishing legislation of proclamation of the park;
- key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or
- identified as a goal in the park's general management plan or other relevant NPS planning documents.

4.2 RESOURCES CONSIDERED/NOT CONSIDERED

NEPA requires analysis of an extensive set of human environmental impact categories, including soils and geology, air quality, water quality, noise, wetlands and jurisdictional waters of the United States, floodplains, vegetation, wildlife, threatened and endangered species, aesthetics, cultural resources, visitor experience, socioeconomics, and environmental justice. For an EA, NEPA requires that only information relevant to understanding the impact of the alternatives be included.

The project does not include any work within any local, state or Federally regulated wetland or floodplain, or impact any state or Federally listed threatened, endangered, or species of special concern. There would be temporary impacts in air quality and noise due to construction but once completed, these would return to levels that were equivalent to pre-construction. There would be no effects on disadvantaged populations. Therefore, potential impacts to these resources are not considered in the Environmental Assessment.

The resources and topics listed below are non-controversial, would not be affected, or would be affected negligibly by the alternatives evaluated in this EA. Negligible effects are effects that are localized and immeasurable or at the lowest levels of detection. These topics have been dismissed from further consideration or analysis.

4.2.1 Prime and Unique Farmlands

Prime or unique farmland is defined as soil which particularly produces general crops such as common foods, forage, fiber, and oil seed; unique farmland produces specialty crops such as fruits, vegetables, and nuts. The soil on the island is fine-grained, well-drained, sandy loam, suitable for agriculture but also susceptible to erosion. The mainland soils are thin, with many bedrock outcrops. The shore parcel includes large areas of tidal mud flats as well as an area of Buxton/Scantic complex soil, a fine-textured soil comprised of silts and clays (NPS 1998). Overall, the soil types and conditions in the project area are not conducive to support prime farmland and therefore there will be no impact to prime or unique farmlands.

4.2.2 Air Quality

The site has been designated a Class II area under the U.S. Clean Air Act, which means the area is subject to the same protection afforded those areas in Maine except for those designated Class I. A paper mill in Woodland, Maine, approximately 60 miles away, presents the most significant regional source of emission to Saint Croix Island IHS under westerly wind conditions. Although air quality in the vicinity of the site is generally good, ozone levels sometimes exceed state and Federal health standards and this pollutant is a particular concern in the area.

The Clean Air Act of 1963, as amended, and associated NPS policies, requires NPS to protect air quality in parks. Although the mainland observation area rehabilitation would require use of heavy equipment during construction, emissions and dust associated with these activities would be short-term and negligible in a local and regional context.

4.2.3 Noise

Excavation around the interpretive trail and use of heavy equipment for grading would occur during the construction period and would result in a temporary increase in the noise levels at the mainland observation area.

4.2.4 Floodplains

Most of the mainland portion of the project area, including the location for the interpretive trail and pavilion, is shown on the National Flood Insurance Program Flood Insurance Rate Map for the City of Calais, Maine, in Washington County, as being for the most part "Areas determined to be outside the 500-year flood-plain." The island shore and shore line strip of the mainland section do front, or are located in, the Saint Croix River estuary, and these areas immediately adjacent to the intertidal zone would be inundated during 100- or 500-year floods, including the boat-launching ramp area and the island stairs. However, the rehabilitation project is exempt from "Statement of Findings" requirements in accordance with section III (V)(B)(1) of the National Park Service's Floodplain Management Guideline (NPS, 1993), which covers "actions which are functionally dependent upon locations in proximity to water and for which non-floodplain sites are never a practicable alternative."

4.2.5 Soils

The soil on Saint Croix Island consists of a fine-grained, well-drained sandy loam, suitable for crop production but susceptible to erosion (Sewall 1976). There is a thin layer of soil overlying bedrock at the north end of Saint Croix Island, while the south end has a deeper soil cover. The mainland soils are also thin, with bedrock outcrops dispersed throughout the area. There has been a large amount of fill as a result of industrial development around the mainland observation area and the construction and maintenance of U.S. Route 1. Along the shore of the mainland, there are areas of tidal mud flats, alluvial and marine-deposited soil that extends below the high water line. Along the northern edge of the mainland interpretive/observation area there is an area of Buxton/Scantic complex soil, a fine-textured soil consisting of silts and clays (Johnson 1996). Impacts to these soils were not considered since there were no actions that would remove large amounts of soil and the soil complexes on the mainland have already been disturbed.

4.3 VISITOR EXPERIENCE/PARK OPERATIONS

4.3.1 Affected Environment

Currently, the approximately 12,000 annual visitors experience few visitor services at the mainland observation area. Buses cannot easily drive down the paved access road or turn around, so they must stop on the road leading to the mainland observation area and let visitors walk down to the viewing pavilion. For those vehicles that can make it down the steep road, there are very few parking spaces available: approximately four to six vehicles can park at the gravel boat launch area and one or two vehicles can park at the gravel areas at the maintenance shed, although this area is not marked and is not recognizable to the visitor as an access point. In addition to limited access, the lack of ADA accessible features (including restrooms) leads to a poor visitor experience. Once at the pavilion, there are minimal interpretive opportunities for visitors. There is one panel that gives an overview of the historic events that took place at the site, present only in the summer. No information is available to the visitor in the off season.

Visitors that go to Saint Croix Island must contend with a deteriorating stairway that leads to the upper island plateau. The only interpretive signage on the island is the commemorative plaque from 1904. The boathouse and oil house are in a deteriorated condition. Litter has reduced the scenic quality of the area, especially in the off season.

Park operations at the Saint Croix Island IHS site would need to retain NPS personnel for limited seasonal maintenance. This includes mowing the grassy area, on the island, along the plateau near the boathouse and where the foundation and gravesite remains from the original settlement exist. The mainland overlook requires seasonal staff personnel to maintain the restroom, remove trash at the mainland observation area, and mow the grassy areas.

4.3.2 Environmental Consequences

Table 3 summarizes the impacts on visitor experience that would be associated with each of the alternatives.

No-Action Alternative

The No-Action Alternative would retain the Saint Croix Island IHS interpretive signage, roadways, vegetation, and overlook facilities in their current condition. Minimal interpretive services would remain, with the result that the quality of visitor experience would continue to remain low. Mainland observation area operations would remain as they are currently. Limited visitor facilities would require minimal maintenance of the lawn and fields, as well as only one person to clean the restroom and trash from the mainland observation area. The deterioration of the resources on the island would continue as well. Access for much of the mainland observation area would not meet ADA standards. There would, however, be no short-term adverse impacts associated with the No-Action Alternative. The No-Action Alternative would lead to a continued deterioration of the quality of the visitor experience at the site, and offer no long-term benefits, but would have no adverse impacts on the park operations in the short- or long-term.

Alternative A

The effect of Alternative A on the visitor experience would be the preservation of the historic resources of the Saint Croix Island IHS which would allow a better understanding of the historic events that took place. Stabilization of the boathouse on Saint Croix Island and removal of the oil house would improve the visual experience visitors would have when on the island or viewing it from the pavilion. The mainland interpretive trail would further the visitor's awareness of the site and its context to regional events. Temporary adverse effects on the park operations for the mainland observation area include supervision of the area during construction, while minor long-term adverse effects result from increased maintenance requirements from the picnic area with additional trash accumulation.

Access to the mainland observation area would be limited temporarily during the construction period. Once completed, access would be ADA compliant for visitors utilizing the pavilion, interpretive trail, and toilet. Easier bus access and improved parking facilities would encourage more visitors. The extended parking area would be visible from Route 1, and could attract more visitors. The flow of visitors through the mainland observation area would be directed toward the trail and pavilion, from the driving loop and retaining wall at the north end.

Table 3
Saint Croix Island IHS Improvements Environmental Consequences of Alternative Actions

Resource	No Action	Alternative A	Alternative B	Alternative C	Alternative D (Preferred Alternative)
Visitor Experience	No new facilities	Improved visitor experiences through an interpretive trail that would further the visitor's awareness of the site and its context to regional events; increase parking for 17 vehicles; welcome area and bus loop; picnic and outdoor event area; meet access requirements under ADA standards.	Improved visitor experiences through an interpretive trail that would further the visitor's awareness of the site and its context to regional events; increase parking for 20 vehicles; welcome area and bus loop; picnic and outdoor event area; partially meet access requirements under ADA standards; visitor center with interpretive displays and restrooms; increased visual impact from road and island.	Improved visitor experiences through an interpretive trail that would further the visitor's awareness of the site and its context to regional events; increase parking for 17 vehicles; welcome area and bus loop; picnic and outdoor event area; partially meet access requirements under ADA standards; visitor center with interpretive displays and restrooms; increased visual impact from road and island.	Improved visitor experiences through an interpretive trail that would further the visitor's awareness of the site and its context to regional events; increase parking for 15 vehicles; welcome area and bus loop; picnic and outdoor event area; meet access requirements under ADA standards.
Cultural	Continued deterioration of cultural resources on the island. Consultation with Maine tribes to identify ethnographic resources	Removal of inconsistent cultural resource elements on the island; rehabilitate and preservation of culturally significant resources (boathouse), maintenance of storehouse foundations, floor of historic residence, and gravesite area on the island. Increase the interpretive facilities on the mainland would result in a better understanding of cultural resources. Consultation with Maine tribes to identify ethnographic resources. Negligible effect on the historic scene on the mainland.	Same as Alternative A, except use of the orchard would result in major adverse effects on the historic scene on the mainland.	Same as Alternative A, except use of the orchard would result in major adverse effects on the historic scene on the mainland.	Same as Alternative A.
Natural Resources	Minor adverse impact due to bluff erosion on the island.	Loss of vegetation for the construction of parking and welcome areas; negligible wildlife impacted both short- and long-term due to construction disturbances and additional human activity; long-term minor beneficial effects on water quality; erosion control including stabilization of bluffs on the island. Moderate probability of introducing non-native species from moderate amount of fill.	Larger loss of vegetation than Alternative A resulting from the construction of parking loop and welcome areas; more impervious paved surface will be used; wildlife impacted both short- and long-term due to construction disturbances and additional human activity, erosion control measures including stabilization of bluffs on the island. Minor probability of introducing non-native species from fill.	Loss of vegetation for the construction of parking and welcome areas; wildlife impacted both short- and long-term due to construction disturbances and additional human activity, erosion control measures including stabilization of bluffs on the island. Highest probability of introducing non-native species from the most amount of fill.	Least amount of loss of vegetation for the construction of parking and welcome areas since overflow parking area south of the access road would be unpaved; wildlife impacted both short- and long-term due to construction disturbances and additional human activity, erosion control measures including stabilization of bluffs on the island. Minor probability of introducing non-native species from the least amount of fill.
Socio-economic	No change	Temporary beneficial effect to businesses associated with construction; long-term impact could be increased revenue for the communities and region if visitors utilize businesses and other attractions in the area. Minor amount of impact on the local neighbors.	Temporary beneficial effect to businesses associated with construction; long-term impact could be increased revenue for the communities and region if visitors utilize businesses and other attractions in the area; potential increased revenue with visitor center at-the mainland observation area. Most amount of impact on the local neighbors.	Temporary beneficial effect to businesses associated with construction; long-term impact could be increased revenue for the communities and region if visitors utilize businesses and other attractions in the area; potential increased revenue with visitor center at-the mainland observation area. Moderate amount of impact on the local neighbors.	Same as Alternative A. Least amount of impact on the local neighbors.
Park Operations	No change	Short-term minor adverse effect as project would require personnel to supervise construction.	Short-term minor adverse effect would require personnel to supervise construction. Use of the Robb House as a visitor center would require additional personnel to staff the mainland observation area for interpretive services, visitor circulation, and care of the museum collection; cost for operations and maintenance of the visitor center.	Same as Alternative B.	Short-term minor adverse effect would require personnel to supervise construction.

A picnic and outdoor education/special event area would provide visitors an opportunity to extend their time at the mainland observation area and make their experience to the Saint Croix Island IHS more enjoyable.

Alternative B

The effect of Alternative B on the visitor experience would be the preservation of the historic resources of the Saint Croix Island IHS which would allow a better understanding of the historic events that took place. Stabilize the boathouse on Saint Croix Island and removing the oil house would improve the visual experience visitors would have when on the island or viewing it from the pavilion. The mainland interpretive trail would further the visitor's awareness of the site and its context to regional events. Temporary adverse effects on the park operations for the mainland observation area include a need for increased supervision of the area during construction, while minor long-term adverse effects would result from increased maintenance requirements to maintain the picnic area.

Access to the mainland observation area could be limited temporarily during the construction period. Once completed, access would be partially ADA compliant for visitors with stairs between the Robb House and the interpretive trail, pavilion, and toilet. The impact on visitors and neighbors due to construction would be greater than Alternative A or D. Besides the development of an interpretive trail and outdoor education area, rehabilitation of the Robb House would occur, which would extend the temporary impacts associated with construction. The parking area and driving loop would be larger and extend further into the mainland observation area than with Alternative A or D, and require more paving.

The interpretive trail would further the visitor's awareness of the site and its context to regional events. This alternative includes the largest picnic and outdoor education/special event area of all the alternatives would enhance the experience of visitors to the Saint Croix Island IHS. More parking spaces would be available than any other alternative. The added parking spaces and a bus parking area would improve visitor access. The Robb House would serve as an on-site maintenance and administrative facility and would also include a visitor center, therefore providing a beneficial effect on the visitor experience. An increase in staffing needs by NPS personnel would result from the improvements and could beneficially effect the economic gains in the surrounding communities as a result in local procurement of services, housing, food, gasoline, and other commodities. Alternative B would, however, have a major adverse effect on park operations with additional seasonal staff needed for the visitor center, including interpretive services, museum curation, and visitor circulation at the center. The extended parking area would be visible from Route 1 and could attract more visitors. The increase in visibility of the mainland observation/interpretive area would have a detrimental impact on the neighbors compared to Alternatives A and D. The visitor experience with Alternative B would be improved in the long-term by increasing accessibility to the mainland observation area and increasing the interpretive and educational opportunities for the visitor.

Alternative C

The effect of Alternative C on the visitor experience would be the preservation of the historic resources of the Saint Croix Island IHS which would allow a better understanding of the historic events that took place. Stabilize the boathouse on Saint Croix Island and removing the oil house

would improve the visual experience visitors would have when on the island or viewing it from the pavilion. The mainland interpretive trail would further the visitor's awareness of the site and its context to regional events. Temporary adverse effects on the park operations for the mainland observation area include a need for increased supervision of the area during construction, while minor long-term adverse effects would result from increased maintenance requirements to maintain the picnic area.

Access to the mainland observation area could be limited temporarily during the construction period. The impact due to construction would be similar to Alternative B, except that Alternative C would include a more extensive rehabilitation and also expansion of the Robb House to accommodate a visitor center, and would therefore require longer temporary impacts to the mainland observation area. Alternative C would have an adverse effect on park operations with additional seasonal staff needed for the visitor center, including interpretive services, museum collection, and visitor circulation at the center. Temporary adverse effects on the park operations for the mainland observation area include supervision of the area during construction, while minor long-term adverse effects result from increased maintenance requirements from the picnic area.

Besides the development of an interpretive trail and outdoor education area, a trail would connect the upper and lower portions of the mainland observation area for visitor access, providing a major improvement to mainland observation area circulation. Also, the parking area would be larger than in either Alternative A or D. The parking facilities would be more visible from Route 1 than any of the alternatives since they would be further up the hill near the entrance and all located on the north side of the access road. This visibility would improve traveler awareness of the site and provide an opportunity for increased visitation. The increase in visibility of the mainland observation/interpretive area would have a detrimental impact on the neighbors compared to Alternatives A and D.

Long-term benefits of this alternative would be to improve the visitor use and experience in the Saint Croix Island IHS. The interpretive trail would further the visitor's awareness of the site and its context to regional events. A picnic and outdoor education/special event area would benefit the user of the Saint Croix Island IHS and provide a more enjoyable visit. The benefit of on-site administrative and maintenance facilities in this alternative could also enhance the visitor experience. An increase in staffing needs by NPS personnel would result from the improvements and could beneficially effect the economic gains in the surrounding communities as a result in local procurement of services, housing, food, gasoline, and other commodities. This increased personnel would, however, be a negative impact with additional cost to the NPS on staffing and maintenance of the facility.

Alternative D (Preferred Alternative)

Impacts to the Saint Croix Island IHS visitor experience and park operations due to construction of this alternative would be similar to those of Alternative A. Access to the mainland observation area could be limited temporarily during the construction period. Once completed, access would be ADA compliant for visitors using the pavilion, interpretive trail, and toilet. Easier bus access and improved parking facilities would encourage more visitors. Changes to views from Route 1 would be minimal compared to the other alternatives, with the overflow parking area along the south side of the access road left as grass. While this might limit the number of visitors since it would be less

obvious where the mainland observation area is, it would decrease the visual impact of vehicles to visitors and local residents. Development for this alternative would be contained all in one area along the north side of the access road.

Long-term benefits of this alternative would be to improve visitor use and experience in the Saint Croix Island IHS. The interpretive trail would further the visitor's awareness of the site and its context to regional events. A picnic and outdoor education/special event area would enhance the experience of visitors to the mainland observation area. Minimal development with increased interpretive facilities would allow visitors to have a more contemplative experience at the mainland observation area while providing basic amenities. Alternative D does not, however, provide for an on-site visitor center which would reduce the overall visitor experience compared to Alternatives B and C.

4.3.3 Conclusions

The No-Action Alternative would continue to contribute a long-term detrimental affect on visitor use and experience by limiting the services offered at the mainland observation area. All other alternatives would have beneficial effects on the visitor experience by improving visibility from U.S. Route 1 and improving access and parking at the mainland observation area. Mainland observation area features would be fully accessible with Alternatives A and D, and partially accessible with Alternatives B and C, and all alternatives would provide new visitor facilities (picnic area). The action alternatives would provide enhanced interpretive services on the mainland and the island. With all the alternatives, landscaping the interpretive trail would retain the view from the island with minimal indications of disturbance and portray a more representative view of how the settlers would have seen the shore from the island. The action alternatives would all restore and maintain the historic resources and improve access to them. All the action alternatives would have a temporary impact on visitor use while construction occurs, and all would impede use of the boat ramp during construction. Alternative D would have the greatest long-term benefits on the visitor experience by providing an increased interpretive display, while producing the lowest cost. Alternatives B and C would provide the greatest beneficial effects to the visitor experience through use of the Robb House as a visitor center.

Temporary adverse effects on park operations for the mainland observation area include the increased need for supervision of the area during construction. In order to minimize the disruption to site operations, any proposed construction would be done in the shoulder months (May to June and September to October). Park maintenance would increase with additional trash accumulation at the picnic areas as part of all the alternatives. Alternatives B and C would have a major adverse effect on park operations with additional seasonal staff needed for the visitor center, including interpretive services, maintaining and displaying the museum collection. An increase in staffing needs by NPS personnel could beneficially effect the economic gains in the surrounding communities as a result in local procurement of services, housing, food, gasoline, and other commodities. Alternatives A and D would provide the least adverse impact to park operations due to improvements of all the action alternatives. Alternative D would have the least adverse impact to the park neighbors.

4.4 CULTURAL RESOURCES

4.4.1 Affected Environment

The Saint Croix Island National Monument (former name of Saint Croix Island IHS) was automatically listed in the National Register of Historic Places with the passage of the National Historic Preservation Act on October 15, 1966. However, at the time of its National Register designation, no documentation was prepared identifying the structures that contributed to the significance of the site. In recent years, the NPS has been working in consultation with the Maine Historic Preservation Commission (SHPO), to determine which resources are eligible for the National Register. Saint Croix Island contains only three built features, none of which existed during the French settlement: an 1885 boat house, a 1906 oil house, and a 1904 memorial tablet. A small modern shed also houses maintenance equipment.

As a result of the on-going consultation, the 19th century boathouse, associated with the former Saint Croix Island Light Station which burned in 1977, was determined eligible for listing in the National Register. The brick oil house, the other remaining structure associated with the former Saint Croix Island Light Station, was found not eligible for the National Register due to its loss of context and because it is a typical example of its kind. The *Cultural Landscapes Inventory* (NPS 1998b) notes that these built features from later occupation have an adverse impact on the island's primary significance.

Additional resources on Saint Croix Island include a memorial stone and commemorative bronze plaque that marks the 1904 tercentenary, the foundation remains of a storehouse and floor of the residence of Sieur de Mons and a gravesite area.

Archeological research has been conducted on Saint Croix Island on three occasions, in 1797, 1950, and 1968-69. Two projects investigating the archeological resources of the mainland parcels were undertaken in 1976. These research efforts were summarized in the NPS's *Archeological Overview and Assessment of the Saint Croix Island International Historic Site, Calais, Maine* (Johnson, 1996). The island's known archeological resources include burials of the French settlers; areas which may contain Native American artifacts; areas that contain 19th century farm outbuilding remnants, graves of the 19th century inhabitants; the storehouse and possibly floor of the de Mons' house; and areas that may contain additional remains associated with the settlement. Ongoing archeological surveys in the winter/spring of 2002 will assess the nature and potential significance of resources in the vicinity of the mainland observation area.

General consultation with the Federally recognized tribes in Maine has been initiated, and will continue regardless of which alternative is selected. As part of that consultation process, an ethnographic assessment to determine traditional use and association of the Wabanaki people to park lands will be conducted in 2002-03. This study includes the Saint Croix project area.

Two properties on the mainland, within the authorized park boundaries, are historically significant for reasons not related to the 1604 settlement. The McGlashan-Nickerson- Sisk House and the Pettegrove-Livingston House have documented local significance and are important cultural resources. The McGlashan-Nickerson- Sisk House is significant as a rare example of Italianate design within the village of Red Beach. The Pettegrove-Livingston House is significant for its

gothic architecture and "Downingesque" landscape architecture. The landscape of the McGlashan-Nickerson-Sisk House, mainly the adjacent apple orchard may also have historic value in its association with the house.

As noted previously, Native Americans were present in the project area prior to the arrival of the French, and they continue to live in close proximity. However, at present, the nature and extent of the ethnographic resources within the project area are unknown.

4.4.2 Environmental Consequences

Table 3 summarizes the impacts on cultural resources that would be associated with each of the alternatives.

No-Action Alternative

With the No-Action Alternative, the recommendations of the 1998 GMP would not be implemented, which would result in the continued deterioration of the historically significant 19th century boathouse with the long-term impact of it being eventually lost. Erosion of the bluffs on the island could also lead to the eventual deterioration and loss of historic archeological resources.

Impacts Common to Alternatives A and D (Preferred Alternative)

The historically significant 19th century boathouse would be rehabilitated, with repairs to the roofing and siding and some minor structural repairs resulting in the long-term beneficial retention of this historic structure. Trees (small spruce and fir) that are next to the structure will be removed to increase air circulation and help preserve the structure. The 17th century foundation remains and gravesites on the island would be maintained, thus ensuring the long-term beneficial impacts to these cultural resources. Removal of the remains of the 19th century oil storage house would have the beneficial effect of restoring the cultural landscape for the island. The building is not eligible to the National Register of Historic Places and does not relate to the 1604 settlement. A slope revegetation plan for the eroding bluff at the south end of the island would protect archeological artifacts from erosion, a long-term beneficial effect.

Interpretive features of the mainland overview would enhance the cultural understanding of the visitor to the Saint Croix Island IHS by providing context and examples of what the original settlers possibly experienced. Each of the action alternatives would have a negligible adverse impact on archeological resources along the mainland shore parcel by disturbing the area for development of the parking/welcome areas and minor excavation for the interpretive statues. As previous archeological evaluations have noted (Johnson 1996), this area has been disturbed by previous industry and the potential for cultural resources has been compromised.

Alternative B

Alternative B substantially intrudes half-way through the apple orchard associated with the historic McGlashan-Nickerson-Sisk House, which is part of the landscape to the mainland observation area. The driving loop through the orchard that connects to the drive in front of the McGlashan-Nickerson-Sisk House would impact the landscaping associated with these historic homes. Part of the historically relevant landscaping of the Pettegrove-Livingston House extends onto the McGlashan-Nickerson-Sisk property. The proposal of Alternative B would have a major adverse

impact on the historic landscape at the mainland observation area by splitting the continuous landscape with a paved driving loop and introducing vehicles and buses.

Alternative C

Alternative C would include the potential loss of landscape significance through the encroachment into the orchard associated with the historic McGlashan-Nickerson- Sisk house that is part of the landscape to the mainland observation area. Alternative C would diminish the historic landscape, and have a major adverse effect on the setting.

4.4.3 Conclusions

The No-Action Alternative would have a long-term adverse impact on the historic structures on the island since the boathouse would continue to weather and deteriorate. Alternatives B and C would have major adverse impacts on the landscape surrounding the historic McGlashan-Nickerson- Sisk house which could disrupt the historic surroundings of the property. These impacts would include paving the driveway and introducing buses and an increased number of vehicles in front of the house as well as the loss of a portion of the orchard. Alternatives A and D would have no irreversible or irretrievable adverse impacts to historic resources.

4.5 NATURAL RESOURCES

The mainland observation/interpretive area consists of a V-shaped wooded peninsula on the shore of the Saint Croix River, enclosing the outlet of Beaver Creek, a tributary to the river. The peninsula is bordered in part by an old orchard and maintained lawns. The coastline of this area is rocky, with a steep 20 to 30-foot rise to the lawns, parking areas, and woodlands of the mainland observation area. At the water edge is an intertidal area which contains a gently sloping mud flat that transitions into boulders and rocky terrain as it approaches the high tide zone.

The island portion of the site is a gently rolling plateau that sits approximately 40 feet above sea level. The coastal edges of the island are a combination of beach and rock, with steep slopes rising to the plateau. Two small knolls at the island's south end are cut off from the island at high tide.

This section describes the natural; wildlife, vegetation, and water resources that could potentially be affected by the proposal.

Table 3 summarizes the impacts on natural resources that would be associated with each of the alternatives.

4.5.1 Wildlife

Affected Environment

The mainland section consists of open, park-like woodland on a narrow peninsula. The shore parcel is a small area that attracts common species that would typically occupy a neighborhood environment, and is not considered important wildlife habitat. There is a small area of more dense woods between the maintenance shed and parking area and again between the Robb House and the access road. A small portion of the mainland observation area is lawn with a steep grassy slope. There is limited wildlife habitat available on the mainland. As was noted in a 1997 *Natural*

Resource Inventory (Cronan 1997), common canopy-nesting birds include black-capped chickadee (*Parus atricapillus*) and veery (*Hylocichla fuscescens*). Small mammals found in the grassy areas of the mainland observation area include deer mice (*Peromyscus maniculatus*) and red squirrels (*Tamiasciurus hudsonicus*). The trees along the shore can provide perches for species such as osprey (*Pandion halioetus carolinensis*) and Eastern crow (*Corvus brachyrhynchos*) that have been reported to use the surrounding areas.

Wildlife on the island is similar to that seen on the mainland. The *Natural Resource Inventory* (Cronan 1997) did not record any amphibians or reptiles observed on the island during samples in 1995, 1996, or 1997. A variety of bird species were observed using the island including spotted sandpiper (*Actitis macularia*), song sparrow (*Melospiza melodia*), and common loon (*Gavia immer*). A pair of bald eagles nested on the island from 1990 to 1993, after which the nest was destroyed when the nest tree blew over. Harbor seals (*Phoca vitulina*) are common in the waters around the island and use the outcrops and sand bars near the island as haul-out spots.

Although several species of wildlife, particularly those associated with forests and meadows, may reside in or near the project area, the actions evaluated in this EA would be undertaken in a limited area of previously disturbed lands that have been subject to visitor and vehicular traffic, as well as residents near the mainland observation area.

Threatened, Endangered, Proposed, and Candidate Species. American bald eagles (*Haliaeetus leucocephalus*), a Federally listed (threatened) species under the Endangered Species Act, are resident and nest on the Saint Croix River. Bald eagles have been seen on the island as recently as 1993 and a nest was reported in 1994 north of the site along the mainland shoreline, but no nesting activity has been recorded recently, according to the Maine Department of Inland Fisheries and Wildlife. No other species of management concern are known to inhabit Saint Croix Island or the mainland section.

4.5.2 Environmental Consequences

No-Action Alternative

The No-Action Alternative would have no additional impact on the wildlife at the site. The existing trees and shrubs in the mainland shore section would continue to provide cover and food resources for birds and small mammals at the site.

Impacts Common to Alternative A, B, C, and D (Preferred Alternative)

Individual animals in the project area are habituated to the current levels of disturbance and human activity and would be affected negligibly, if at all, and only during construction activities. This noise and construction might result in short-term avoidance of the mainland observation area. For Alternative A, additional work would need to be done to erect the retaining wall at the north end of the parking loop. This noise and construction might result in short-term avoidance of the mainland observation area. Alternative B would require a longer temporary disturbance due to the expansion of the parking and driving loop through the orchard and out along the driveway to Saint Croix Road. Temporary disturbance for Alternative C would be due to the clearing of habitat near the entryway. The long-term adverse impacts would be minor due to the loss of natural and managed vegetation which supports wildlife in the area.

Although the effects of all alternatives would be minor, the most important difference between the action alternatives is in the amount of habitat that would be disturbed. The parking area for Alternative A would clear about 0.26 acres including several trees and understory growth toward the west edge of the mainland observation area. The grassy areas on either side of the access road would be paved in Alternatives A and B. The retaining wall for Alternative A could affect some of the small mammals at the mainland observation area by creating a partial barrier to movement between the woods and orchard. Alternative B would clear about 0.3 acres in the western half of the peninsula. Several trees would be removed which could reduce available forage, resting, and nesting sites. Alternative C would also require clearing about 0.3 acres at the entrance to the mainland observation area. The grassy area on the south side of the access road would remain, but the north side would become part of the parking area and access trails. Several trees and shrubs would be removed for Alternative C which could reduce habitat for wildlife. Alternative D would clear about 0.25 acres for the parking area. All action alternatives would involve the planting of native ground covers and shrubs along the interpretive trail which might benefit wildlife at the mainland observation area by replacing forage and nesting sites. Alternative D, which disturbs the least area, would have the least effect on wildlife in the area.

4.5.3 Conclusions

The No-Action Alternative would not impact wildlife at the mainland observation area. Some wildlife in the project area might be disturbed due to the additional noise and activity associated with the construction of the parking area and interpretive trail in Alternatives A, B, C, and D, with the most impact associated with Alternatives B and C. Trees would be removed for these two alternatives to create the parking and driving loops, which would result in the loss of potential wildlife habitat. Alternative A would require a retaining wall that could affect some of the small mammals at the mainland observation area by creating a partial barrier to movement between the orchard and woods. Alternative D would have the least impact of the action alternatives on wildlife at the mainland observation area as it would require the least loss of trees. No special status species would be affected by the actions proposed in this EA.

The action alternatives would not result in an impairment of wildlife resources because they do not result in any irreversible or irretrievable adverse impacts.

4.5.4 Vegetation

Affected Environment

As noted in the *Natural Resource Inventory* (Cronan 1997), Saint Croix Island's interior plateau contains two dominant cover types: a mowed field habitat and a forest-shrub zone. The perimeter of the plateau contains patches of trees and herbaceous and woody plants that create a mixed successional forest-shrub fringe. These plants include American beech (*Fagus grandifolia*), white cedar (*Thuja occidentalis*), birch (*Betula* spp.), wild rose (*Rosa* spp.) and raspberry (*Rubus* spp.). This perimeter vegetation helps to protect and stabilize the steep banks that slope from the plateau to the intertidal zone. The intertidal zone is composed of several zones that contain a variety of communities, including salt marsh vegetation and mudflats.

The shore section of the mainland overlook includes open park-like woodland cover vegetation typical of successional plant communities along the coast. There are no rare plant species at the mainland observation area and the vegetation present includes white spruce (*Picea glauca*), balsam fir (*Abies balsamea*), white pine (*Pinus strobus*) red oak (*Quercus rubra*), paper birch (*Betula papyrifera*), wild rose, and quaking aspen (*Populus tremuloides*). The mainland observation area also includes mowed field and grass/shrub dominated area. The lawn areas are dominated by introduced grasses with wild rose, raspberry, and silverrod (*Solidago bicolor*) along the edge. Shrubs, where present, include alder (*Alnus* spp.) and cherry (*Prunus* spp.). More dense woods in the area between the maintenance shed and the road are dominated by white cedar (*Thuja occidentalis*) with old apple trees and a well developed shrub layer.

A mature orchard with a single row of old apple trees in a grass lawn leads from the north side of the mainland observation area and up to the Robb and McGlashan-Nickerson-Sisk homes. The orchard stands on a steep grade with poor soil, and mosses are the dominant cover type.

4.5.5 Environmental Consequences

Table 3 summarizes the impacts on natural resources that would be associated with each of the alternatives.

No-Action Alternative

The No-Action Alternative would retain the island in its current condition. Continued deterioration of the bluffs on the island would occur due to soil erosion and visitor use on the island. Vegetation would continue to be managed by regular mowing and result in continued erosion.

Impacts Common to Alternative A, B, C, and D (Preferred Alternative)

Re-establishing some native vegetation growth in the southern portion of the island would be a part of erosion control management and would include allowing the grassy area to grow higher (less mowing), encouraging shrub thickets to take hold, and the vegetation on the upper plateau to succeed to some extent. These actions would have both short- and long-term benefits to the vegetation at the site. The cliffs on the island would be stabilized using a vegetation management system that would encourage growth of shrubs and small trees along the banks of the cliffs and not alter the island vegetation that is present, thus preventing soil erosion which would in turn encourage re-vegetation at the site.

Planting on the mainland around the parking and throughout the trail would minimize the negative impacts of construction. Typical of vegetation along the coastal area of Maine, there is not a dense section of vegetation within the shore parcel. A small area of vegetation would be lost in all action alternatives. Alternative A would have a minor impact on the natural vegetation of the mainland observation area. About 0.26 acres of vegetation would be lost by the development of the parking area. Alternative B requires the most amount of paving of the mainland observation area (1458 cubic yards) and more vegetation would be impacted. Alternative B would intrude on the orchard adjacent to the Robb House on the mainland section, and would require the removal of about two apple trees. Vegetation would be lost in the development of the parking areas (about 0.3 acres) to the north and south of the paved access road, which would have a minor, adverse impact on the vegetation at the mainland observation area. Alternative C encompasses a larger area than the other action alternatives, therefore more natural vegetation would be adversely impacted. Alternative C

would also require a substantial amount of fill to meet accessibility needs and major mainland observation area alteration. The densely wooded area in the western portion of the mainland observation area would be cleared in order to develop the upper bus parking area. Less natural vegetation would be adversely impacted by Alternative D compared to the other action alternatives since the grassy vegetation along the south side of the paved access road would remain and the parking area would be developed in a more open area. The parking loop would require the removal of about 0.25 acres of vegetation. Native vegetation along the interpretive trail would be supplemented for all the action alternatives, as would the canopy cover leading north towards the orchard, which would provide beneficial effects to the visitor by framing the statues along the trail and adding depth to the interpretive trail. With the application of fill material to cover the habitat, there is a chance of introducing non-native plant seeds within that fill. These non-native seeds have the potential detrimental effect of invading the landscape.

4.5.6 Conclusions

The No-Action Alternative would have a minor, long-term, adverse effect since continued soil erosion leading to vegetation loss would occur on the island. There is minimal difference in the impacts to vegetation between the action alternatives. Alternative D would have the least amount of adverse effect on the vegetation on the mainland. Alternative B would require the greatest loss of vegetation due to pavement for the parking and driving loop, while Alternative C would remove much of the vegetation in the northwest area adjacent to the access road for parking. Alternatives A and D would have similar impacts but Alternative D would increase the landscaping around the interpretive trail and the outdoor event area to minimize the views from the island and the roadway, as well as benefiting the visitor utilizing the interpretive trail. The least amount of fill necessary is preferred in order to minimize non-native plant species invasion, as seen with Alternative D.

The action alternatives would not result in an impairment of natural resources because they do not include any irreversible or irretrievable adverse impacts.

4.5.7 Wetland and Water Resources

Affected Environment

Saint Croix Island sits within the Saint Croix River estuary where salt water from Passamaquoddy Bay dominates. The tidal current in the estuary is strong on both outgoing and incoming tides. A large portion of the rocky ledges, gravel beaches, and the mudflats of the historic site are covered and exposed twice daily by tidal salt water. The primary water resource on the site is the intertidal zone. In the past, water quality has been an issue in the estuary due to outflows from a pulp and paper mill in nearby Woodland, and from sewage treatment plants in Calais, Saint Stephens, and Saint Andrews. Water quality in the river below the Calais- Saint Stephens area had been impacted by these industries, along with runoff from residential properties and non-point agricultural pollution, and had resulted in high fecal coliform levels (Cronan 1997). The Saint Croix River is classified as a Class SC river in the tidal estuarine waters, while the freshwater portion of the river from Woodland Dam to tidewaters meets Class C standards. The waters from the stream adjacent to the shore section were sampled in 1997 and the overall water quality was healthy and dilute (Cronan 1997).

The island and mainland sections of the site do not contain any surface waters in the form of wetlands, streams, or ponds, although there is a stream adjacent to the mainland observation/interpretive area. There is an intertidal zone for both the island and the mainland. The island intertidal zone consists of an upper littoral fringe; a midlittoral zone; and a lower littoral zone. The heterogeneous intertidal zone also includes small patches of salt marsh vegetation as well as mud or sandflat habitats covered seasonally with various species of alga. The mainland intertidal habitat includes a mud flat that gently slopes into boulders and rocks as it approaches the high tide zone (Cronan 1997).

4.5.8 Environmental Consequences

No-Action Alternative

The No-Action Alternative would retain the water resources surrounding the island in their current condition. Continued deterioration of the bluffs on the island would occur due to soil erosion which could run off into the waters and have a negligible or minor affect on the water quality. Vegetation management would also remain as it is and reduce the ability to control erosion or reestablish vegetation, thus leading to adverse impacts on the water resources. No negative impact would occur due to the No-Action Alternative on the water resources along the mainland observation/interpretive area.

Impacts Common to Alternative A, B, C, and D (Preferred Alternative)

There would be no direct impact to water resources from any of the action alternatives. The action alternatives would include erosion control and vegetation management for the Saint Croix Island and therefore would beneficially affect the water resources of the Saint Croix River by reducing erosion of soils into the waters and decreasing sedimentation. The rehabilitation of the boathouse would have a negligible adverse effect since there would be no soil disturbance and the repairs would be done via the land and not within the waterway. Erosion and sedimentation would be controlled during construction on the mainland overlook in order to prevent adverse water quality impacts. All the action alternatives would have a beneficial (minor) effect since rehabilitation of the stormwater conveyance system would improve water quality from the parking areas. Alternative D would include stabilization of the embankments along the eastern edge of the mainland observation area, where necessary, in order to minimize adverse impacts on the river and intertidal zones. Areas would be excavated to develop parking and to provide access to the mainland observation area which would have minor adverse effects on the water quality of the river. Alternatives B and C would increase impervious surfaces and could lead to minor impacts from increased runoff. All alternatives would have the potential to result in minor, temporary adverse impact to water quality due to erosion and sedimentation during construction. Mitigation (sedimentation and erosion controls) that is included in each alternative would reduce the potential for impacts.

4.5.9 Conclusions

The No-Action Alternative would have a negligible or minor, long-term, adverse effect due to soil erosion which could run off into the waters of the Saint Croix River. There would be no direct impact to water resources with any of the action alternatives since there would be no activities within water bodies at the mainland observation area. Although Alternative B would require the greatest loss of vegetation due to pavement for the parking and driving loop and Alternative C would remove much of the vegetation in the northwest area adjacent to the access road for parking, these effects

will be offset by the beneficial effect of rehabilitating the stormwater conveyance system and improving the water quality from the parking areas. Alternative D would have minor impacts since Alternative D would increase the landscaping around the parking and orchard area and would provide bank stabilization, both of which would make runoff negligible. Alternative D would have the least amount of adverse effect on the water resources due to activities on the mainland.

The action alternatives would not result in an impairment of natural resources because they do not include any irreversible or irretrievable adverse impacts.

4.6 SOCIOECONOMIC ENVIRONMENT

4.6.1 Affected Environment

In addition to natural resources, the socioeconomic environment was also evaluated. The socioeconomic environment includes visitors as well as neighbors, local residents, and travelers along U.S. Route 1 spending money on food, lodging, and other tourist activities in the region. Communities in the region include Calais, Maine and Saint Stephen, New Brunswick.

Calais is in the heart of the Saint Croix River Valley, within Washington County. Washington County has through-travelers to the Canadian Maritime Provinces, people touring the area, and people on hunting and fishing trips. Few destination attractions have been developed in Washington County. The greatest attractions are its natural beauty and coastal ambiance. With approximately 4,000 residents, Calais sits across the river from Saint Stephen, New Brunswick. New Brunswick has a large tourism industry. Many visitors pass by the Parks Canada site exhibit as they travel to or from Saint Andrews, which is a major tourist destination within Charlotte County.

The Calais economy is centered around retail trade with the region. Recent changes in Canadian Tax Laws have resulted in growth in retail sales in Calais to Canadian customers. These sales are a good indicator of the increasing use of Calais as a trade center. Recently tourist interests have collaborated in promoting the international "Quoddy Loop" travel route and destination linking the two areas (NPS 1996). According to the Maine DOT, traffic volumes on U.S. Route 1 in the vicinity of the site range from 2,730 to 2,340 average annual daily traffic (MDOT 1999).

Both Washington and Charlotte Counties have tourist accommodations, including commercial rooms and campsites. By 1995, tourism contributed \$676 million (Canadian) to the province of New Brunswick and \$43 million in lodging sales to Washington County (GCA 1995). The Saint Stephen – Calais border crossing has been a key link in the international trade corridor between Atlantic Canada and the eastern United States. This border crossing provides linkage between Maine, and New Brunswick, and is the 8th busiest border crossing between Canada and the United States (Canada DOT 2002).

The local community potentially affected include the residents of Red Beach, which is adjacent to the mainland observation area. These residents are part of the permanent as well as seasonal influx of people in the area. Local residents who use the boat ramp could also be affected by the proposed project. Residents and tourists that drive along U.S. Route 1 could be affected by changes to the scene associated with the mainland observation area. The proximity of the mainland observation

area to the roadway affords people the opportunity to notice if there are visitor amenities and the amount of visitors at the area.

4.6.2 Environmental Consequences

Table 3 summarizes the impacts on socioeconomic resources that would be associated with each of the alternatives.

No-Action Alternative

The No-Action Alternative would not affect the current socioeconomic environment. Limited visitor facilities would maintain the limited number of visitors to and the limited time spent at the mainland observation area. The No-Action Alternative could result in minor long-term adverse economic effects since fewer visitors would be attracted to the historic site.

Impacts Common to Alternatives A, B, C, and D (Preferred Alternative)

Residents adjacent to the mainland observation area along Saint Croix Road and those along U.S. Route 1 may be affected visually or by increased traffic to and around the area. Improved visitor services could increase visitation and indirect benefits would be seen in an increased demand on regional businesses for food, lodging, and related tourism activities. Beneficial economic effects generated by increased visitation to the mainland observation area may be felt by businesses in nearby Calais and along U.S. Route 1.

Improvements to the mainland observation area would provide attractive amenities for those visitors already familiar with the site and possibly for tourists traveling along U.S. Route 1. Alternative C would have the greatest beneficial visual impact to the site by locating the parking area high on the slope near the entrance. The paved parking area in Alternatives A and B along the south side of the access road would be easily seen from U.S. Route 1. Alternative D would have the least beneficial impact on the visual landscape as a result of maintaining the grass in the parking area south of the access road and by supplementing the vegetation around the trail and outdoor picnic area. With improved visitor interpretive services, higher visitation would be expected to occur and these indirect benefits could result in an increased demand on regional businesses for food, lodging, and related tourism activities.

Temporary beneficial effects on the socioeconomic environment as a result of the commemorative activities planned for 2004 would include increased visitation. Higher visitation at Saint Croix Island IHS could place an increased demand on regional businesses for food, lodging, and related tourism services if improvements to the mainland observation area attract new visitors to the area. It is possible local businesses may indirectly benefit from this increased visitation. Some visitors may seek lodgings in the area if they arrive near the end of the day. Presently there are no shops or restaurants in the site vicinity. Alternatives B and C include a visitor center which would maintain a small store. Beneficial effects to the local economies would be expected from the retail opportunities presented by these alternatives.

Local residents would be temporarily affected by increased traffic, noise, and dust during construction of the new parking area and interpretive trail, and any remodeling or expansion of the

Robb House. Alternative D would have the least adverse effect due to construction of the action alternatives since there would be no additional work on the Robb House and no need for a retaining wall, both of which would increase construction time at the mainland observation area. Alternative C would require the most amount of remodeling and expansion of the Robb House, while Alternative B would increase the amount of adverse effects from construction through the orchard near the residential homes. All the alternatives would be expected to benefit the local communities during development with a temporary increase in construction-related jobs.

Access improvements may result in a minor adverse impact from a moderate increase in traffic at the mainland interpretive/observation area, however traffic congestion is currently negligible in the relatively rural area. Signs and efficient site layout would improve traffic and pedestrian safety at the mainland section.

4.6.3 Conclusions

The No-Action Alternative would have negligible long-term effects since limited visitor services would maintain the low number of visitors to the site and would limit the amount of time spent at the mainland observation area. Visitors would continue on to other destinations and would therefore not increase the economic gain to the surrounding areas. Alternatives A, B, C, and D would result in short-term, minor adverse impacts to residents during construction of the mainland observation area. Also adversely impacting the residents would be an increase in traffic due to these improvements. Temporary beneficial increases in jobs would be expected due to construction. With improved visitor services, higher visitation would be expected to occur and these beneficial effects would be seen in an increase demand on regional businesses for food, lodging, and related tourism activities. Alternatives B and C would provide the greatest improvement in visitor services and would therefore have the greatest benefit to the socioeconomic environment. Increased visitor services, however, would potentially increase the time each visitor spent at the site and this could negatively effect the impact on the neighbors by increasing activity in the adjacent areas.

4.7 CUMULATIVE IMPACTS

The Council on Environmental Quality (CEQ) regulations, which implement the National Environmental Policy Act of 1969 (42 USC 4321 *et seq.*), require assessment of cumulative impacts in the decision-making process for Federal projects. 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).

Cumulative impacts were determined by combining the impacts of the preferred alternative with other past, present, and reasonably foreseeable future actions. Therefore, it was necessary to identify other ongoing or reasonably foreseeable future projects at Saint Croix Island International Historic Site and, if applicable, the surrounding region. Cumulative impacts from the proposal are described for each alternative. There are other recent, planned, or underway projects within or near Saint Croix Island IHS that would be undertaken by the NPS that would contribute to cumulative impacts.

The NPS is planning to participate in the development and operation of the Downeast Heritage Center to be located in Calais, Maine. This Heritage Center would educate and inform visitors of the

historic context of the surrounding region. The NPS would also pursue the development of a Ranger Station at Red Beach to serve administrative functions and to provide for visitor reception or the redevelopment of the Robb House for a visitor center. Maine Department of Transportation is currently studying relocation of the border crossing from its current location in Calais, Maine to Canada to a new location. This crossing could facilitate increased use and access of Canadians to the mainland overlook. There is no construction anticipated on U.S. Route 1 during the rehabilitation and improvements of the mainland observation area. In addition, in 2004, there will be special focus on the 400th anniversary of the Saint Croix Island settlement. In association with the Parks Canada wayside exhibit in New Brunswick, the proposal in this EA would contribute to an overall enhancement of the service and quality of experience that the site offers the visiting public that would be the result of these projects cumulatively.

No-Action Alternative

If the No-Action Alternative were selected, there would be no contribution to the cumulative impacts on the environment associated with the other recent, planned, or current projects at Saint Croix Island IHS or the larger surrounding area.

Impacts Common to Alternative A, B, C, and D (Preferred Alternative)

Alternatives A, B, C, and D would enhance the site's achievement of the development and management goals articulated in the 1998 GMP. In addition to the other components, as discussed throughout this EA, other recent, planned, or ongoing projects within the area include the enhancement of the Parks Canada wayside exhibit and the proposed border crossing bridge at Calais, Maine. The proposed improvements and the 2004 commemorative events would have a minor, short-term increase in traffic on Route 1. All alternatives would have a minor, long-term cumulative adverse effect with the improvement of the border crossing and the improvement of the mainland observation area by increasing visitor use and traffic in the area around Calais and the Saint Croix Island IHS.

Conclusions

The No-Action Alternative would have no short- or long-term adverse cumulative impacts in the project area. The action alternatives would each impose a short-term adverse affect by increased construction at the mainland observation area. Long-term effects of the alternatives would include slightly increasing visitation, enhancing visitor services, and protecting resource values associated with the site. This could slightly increase the use of the new border crossing being built in nearby Calais.

CHAPTER 5 CONSULTATION AND COORDINATION

5.1 HISTORY OF PLANNING AND PUBLIC INVOLVEMENT

A Notice of Intent was published in the *Federal Register* on September 19, 1995, announcing the preparation of a general management plan and environmental impact statement for the site and establishing the public scoping period. During October 1st through 31st, 1995, the public was

invited to help identify the most important issues and develop a range of possible alternatives to address them by writing to the NPS and also attending a workshop during this time. The 45-day comment period on the draft GMP and EIS was published in the *Federal Register* on September 17, 1996, along with a public meeting announcement for October 24, 1996 in Calais, Maine. The public was once again invited to comment on the Final EIS during 1998 when it was published in the *Federal Register* on March 19th.

The NPS held open houses in conjunction with the Department of Canadian Heritage in 1995 at both Calais, Maine and St. Andrews, New Brunswick. A public information poster was released in October 1995 and informed the public about the planning process and announced a workshop and scoping period. Federal agencies, Parks Canada, state and local agencies, and private individuals have all had opportunity to comment on the planning and proposed projects for Saint Croix Island IHS. This EA has resulted in the refinement of the alternatives that were evaluated in the Final EIS and will be presented for public comment.

In 1997, utilizing the draft GMP as a guide, the NPS began site analysis and preliminary site design based on actual ground conditions (i.e. determination that some GMP described alternatives would not work because of the cost of addressing the existing grade problems). A value analysis was undertaken and the initial report was completed the following year, based on the 1997 data, which included limited landholdings. In 2000, the preliminary design was completed and the value analysis was updated to include increased land ownership by the NPS, as this fact affected the alternatives submitted to the NPS's Development Advisory Board, and provided viable alternatives not realistically available previously. The project received Development Advisory Board recommendation for approval in December, 2000. During 2001, construction drawings and specifications were initiated and approximately 90 percent plan completion was achieved. Funding for compliance became available in 2002 and is anticipated to be completed by late May, 2002. If no further environmental compliance work is necessary, it is anticipated that site construction work and design and fabrication of the bronze statues and interpretive panels for the interpretive trail will commence during the summer of 2002.

5.2 COMPLIANCE REQUIREMENTS

The Saint Croix Island International Historic Site is currently managed based on the direction of the approved 1998 General Management Plan and Land Management Plan. Management objectives identified within the plans provide for the acquisition of lands surrounding the mainland observation area and development of interpretive facilities to enhance the visitor experience and awareness of the events of 1604. However, construction and maintenance at the mainland observation area must be compatible with and sensitive to the resource values for which the site was set aside.

The proposal to rehabilitate and make improvements to various components the Saint Croix Island International Historic Site is consistent with the park's management documents and with the Federal environmental laws and agency regulations listed below.

5.2.1 Federal

National Environmental Policy Act

The National Environmental Policy Act requires the consideration of the environmental effects of proposed Federal actions. The act also ensures that environmental information is available to public officials and members of the public before decisions are made and before actions are taken.

This Environmental Assessment has been prepared in accordance with the National Environmental Policy Act to evaluate the impacts of the project on the human environment and provide an opportunity for the public to review and comment on the project. Following public and agency review, the Director of the Northeast Region will make a determination concerning whether or not the project would result in significant impacts on the human environment. If the project would not significantly impact the human environment, the Regional Director will issue a "Finding of No Significant Impact." If the project would significantly impact the human environment, the Regional Director will issue a "Notice of Intent" to prepare an Environmental Impact Statement.

Endangered Species Act of 1973, as amended (16 USC 1531 et seq.) (ESA)

The purposes of the ESA include providing "a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved". According to the ESA, "all Federal departments and agencies shall seek to conserve endangered species and threatened species" and "[e]ach Federal agency shall...insure that any action authorized, funded, or carried out by such agency...is not likely to jeopardize the continued existence of listed species or threatened species". The U. S. Fish and Wildlife Service (non-marine species and marine turtles upon land) and the National Marine Fisheries Service (marine species, including anadromous fish and marine mammals) administer the ESA. The effects of any agency action that may affect endangered, threatened, or proposed species must be evaluated in consultation with either the U.S. Fish & Wildlife Service or National Marine Fisheries Service, as appropriate. Implementing regulations that describe procedures for interagency cooperation to determine the effects of actions on endangered, threatened, or proposed species are contained in 50 CFR 402.

Section 7 of the ESA requires all Federal agencies to consult with the US Fish and Wildlife Service to ensure that any action authorized, funded, or carried out by the agency does not jeopardize the continued existence of listed species or critical habitat. The U.S. Fish and Wildlife Service has indicated that the proposed project will not have an adverse effect on any Federally listed threatened or species of special concern.

The NPS initiated informal consultation on threatened and endangered species by contacting the USFWS on March 13, 2002 (Wende Mehaney, Fish & Wildlife Biologist). Ms. Mehaney noted that areas around and including the site were used by bald eagles. In addition, Gordon Russell, USFWS Field Supervisor for the area, noted that there is a distinct population segment of Atlantic Salmon that have been listed as endangered that inhabit eight rivers in the area, including the Saint Croix River.

Based on the results of informal consultation, knowledge of the project area, and information in NPS files, the NPS has determined that the preferred alternative would not affect Federally threatened or

endangered species and has sent a copy of this EA to the USFWS for review and concurrence with the NPS determination.

Executive Order 11988, Protection of Floodplains

Under EO 11988, all Federal agencies are required to avoid construction within the 100-year floodplain unless no other practical alternative exists. No portion of the proposed project would take place within the 100-year flood zone noted on the Flood Insurance Rate Map (FIRM) published by the Federal Emergency Management Agency (FEMA)

Executive Order 11990, Protection of Wetlands

Under EO 11990, all Federal agencies are required to avoid to the extent possible the long and short term adverse impacts associated with the destruction or modification of wetlands and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative. Each agency, to the extent permitted by law, shall avoid undertaking or providing assistance for new construction located in wetlands unless (1 there is no practicable alternative to such construction, and (2) that the proposed action includes all practicable measures to minimize harm to wetlands which may result from such use. There are no wetlands in the site that would be impacted.

Americans with Disabilities Act

Federal guidelines published in accordance with the Americans with Disabilities Act define specific requirements for disabled access to parking facilities, pathways, and buildings. The accessibility requirements apply to government facilities and to private entities that provide public accommodations, especially when they are built or upgraded.

The purpose and need for the project proposed in this Environmental Assessment is, in part, to correct access deficiencies. Upon completion of the proposed project, the facility will be compliant with the ADA standards.

Section 106 of the National Historic Preservation Act

Congressional policy set forth in the National Historic Preservation Act of 1966, as amended (NHPA) (16 USC 470 *et sequentia*) includes preserving "the historical and cultural foundations of the Nation" and preserving irreplaceable examples important to our national heritage to maintain "cultural, educational, aesthetic, inspirational, economic, and energy benefits". The NHPA also established the National Register of Historic Places composed of "districts, sites, building, structures, and objects significant in American history, architecture, archeology, engineering, and culture." Section 106 of the NHPA requires that Federal agencies take into account the effects of their actions on properties eligible for or included in the National Register of Historic Places, and permit the Advisory Council on Historic Preservation an opportunity to review such actions. Federal agencies consult as appropriate with state historic preservation officers, tribal historic preservation officers or representatives, and other interested parties in fulfilling Section 106 requirements. Section 106 further requires Federal agencies to propose and evaluate alternatives to undertakings that would adversely affect historic properties, or to adequately mitigate adverse effects if avoidance

cannot be reasonably achieved. Section 110 of the NHPA requires Federal agencies, in consultation with the state historic preservation officer, to locate, inventory, and nominate all properties that appear to qualify for the National Register of Historic Places. It also requires Federal agencies to manage and maintain historic properties under their jurisdiction in a manner that considers the preservation of historic, archeological, architectural, and cultural values.

The Section 106 process was initiated prior to and independently of this EA and is currently in progress. As outlined in 36 CFR 800 and the NPS Servicewide Programmatic Agreement, the project is currently under review by members of the NPS regional cultural resource advisory team and the park's cultural resource specialist. The results of the assessment will be submitted for review to the Maine State Historic Preservation Officer (SHPO) prior to initiating any undertaking.

Before any ground disturbing activities, archaeologists will be consulted to determine possible effects on archeological resources. Any such studies will be carried out and evaluated for effect before construction, in consultation with the SHPO.

Consultation with Native Americans

In addition to the National Historic Preservation Act, several laws and executive orders require that Federally recognized tribes, as sovereign entities; be consulted to aid in the identification, treatment, and access to ethnographic resources on Federal lands. Acadia National Park will be conducting ethnographic research in partnership with representatives of the Maine tribes from 2002-03 to identify ethnographic resources and places of religious or cultural importance at Saint Croix and on other lands within park boundaries. These tribes include the Passamaquoddy Tribes at Indian Township and Pleasant Point, the Penobscot Nation, the Aroostook Band of Micmacs, and the Houlton Band of Maliseet. These actions will comply with Executive Orders 13007 and 13175, the Indian Sacred Sites Act, the American Indian Religious Freedom Act, and NPS management policies and directives.

The Native American Graves and Repatriation Act requires the repatriation of human remains and associated artifacts as a result of inadvertent discovery in the course of conducting archeological research or any ground-disturbing activity. Although this scenario is unlikely, should such an event occur during the completion of this project, the NPS will immediately cease the activity and notify the Wabanaki Repatriation Committee.

Clean Water Act of 1972

The purposes of the CWA are to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters". To enact this goal, the U.S. Army Corps of Engineers (Corps) has been charged with evaluating Federal actions that result in potential degradation of waters of the U.S. and issuing permits for actions consistent with the CWA. The U.S. Environmental Protection Agency also has responsibility for oversight and review of permits and actions that affect waters of the U.S. Implementing regulations describing the Corps' CWA program are contained in 33 CFR 320-330.

Water quality in the project area would be protected by the implementation of erosion and sedimentation controls, such as silt fencing, hay bales, and sediment traps, as needed.

The Corps was contacted (Jay Clement, Project Manager) on March 22, 2002 to discuss regulatory issues. Mr. Clement noted that as long as work was not done below the high tide line or did not impact wetlands or waterways, the Corps would have no jurisdiction. Accordingly, actions proposed under the preferred alternative would be conducted on lands above the high tide line and not over waterways, including rehabilitation of the boathouse.

The NPS will send a copy of this EA to the Corps and will consult with them prior to implementation of the preferred alternative to ensure that the selected alternative complies with Section 404 of the Clean Water Act.

Coastal Zone Management Act of 1972 and Coastal Barrier Resources Act (1982), as amended.

The Coastal Zone Management Act (CZMA) presents a congressional declaration to “preserve, protect, develop, and where possible, to restore or enhance, the resources of the Nation’s coastal zone for this and succeeding generations”. The CZMA also encourages “states to exercise effectively their responsibilities in the coastal zone through the development and implementation of management programs to achieve wise use of the land and water resources of the coastal zone”.

The Saint Croix Island IHS is located within Maine’s Coastal Zone; Federal activities related to marine resources must be consistent with state coastal zone management policies. These policies recognize the ecological significance of coastal waters and strive to protect both the water quality and the integrity of significant resource areas. A copy of this EA will be sent with a letter requesting review and determination of consistency to the coordinator of the Maine Coastal Program.

The NPS contacted the Maine State Planning Office, Maine Coastal Program (MSPO) on March 18, 2002 (Kathleen Layden, Director of Maine Coastal Zone Program) to discuss administration of the Coastal Zone Management (CZM) Act and CZM consistency determinations. Ms. Layden indicated the project area was within the Maine Coastal Zone and subject to the CZM Act. Ms. Layden also indicated that the project would comply with CZM consistency determinations as long as any actions required by DEP and any other necessary permits are fulfilled.

The NPS will send a copy of this EA to the MSPO with a request for written concurrence that the project is consistent to the maximum extent practicable with the enforceable policies of the CZMA.

Executive Order 129898, Federal Actions to Address Environmental Justice in Minority Populations and Low Income Populations.

This Executive Order requires Federal agencies to promote “nondiscrimination in Federal programs substantially affecting human health and the environment”. In response to this direction, Federal agencies must implement actions to identify and address disproportionately high and adverse human health or environmental effects of their programs, policies and activities on minority and low-income populations. The proposed project is located within the boundaries of the National Park Service and

would not cause the displacement of any residents, nor would it eliminate jobs, low wage or otherwise. The proposed project would not affect low income and minority populations. The project therefore is in compliance with this Executive Order.

5.2.2 State and Local

The following agencies and entities were contacted and/or consulted during preparation of this EA:

Maine Department of Inland Fisheries and Wildlife (MDIFW).

Informal consultation on threatened and endangered species was initiated by contacting the MDIFW on March 13, 2002 (Scott Lindsey, Assistant Regional Wildlife Biologist). Mr. Lindsey noted species of particular concern included the bald eagle, but that the only recorded nest was outside of the project site and therefore would not be impacted by the project. Additional information concerning state species of concern was obtained from the Endangered Species Program Internet site at "<http://janus.state.me.us/ifw/wildlife/endangered/SFList.htm>".

Maine Department of Environmental Protection (MDEP).

The MDEP (Jim Beyer, Environmental Specialist III) was contacted to discuss compliance with the State's Natural Resource Protection Act. Mr. Beyer indicated that a permit would be necessary if a permanent structure (such as the boathouse) in or over water is altered. As this is not part of the preferred alternative, there would be no MDEP permits needed for the project. There are no permits that have been issued in the site area previously that would need to be modified or altered.

The NPS will send a copy of this EA to the MDEP for comments.

City of Calais.

The NPS contacted the City of Calais (James Porter, Calais Code Enforcement Officer) to discuss compliance with the Shoreland Zoning Act regulations. Mr. Porter indicated the NPS should send a copy of this EA and construction drawings to the City of Calais for review prior to implementing any actions.

Accordingly, a copy of this EA will be sent to Mr. Porter of the City of Calais for review and NPS will provide construction drawings for review prior to implementing any actions proposed under the preferred alternative.

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DISTRIBUTION

This Environmental Assessment will be placed on formal public review for 30 days and will be distributed to a variety of interested individuals, agencies, and organizations, including those listed under "Consultation and Coordination." This EA will be available on the Internet at <http://www.nps.gov/sacr/> and also at <http://www.nps.gov/acad/management.htm>.



As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

April 2002

United States Department of the Interior- National Park Service