# SAINT CROIX ISLAND INTERNATIONAL HISTORIC SITE
# FIRE MANAGEMENT PLAN
*(CALAIS, MAINE)*

## ENVIRONMENTAL ASSESSMENT
## AUGUST 2004

# Saint Croix Island International Historic Site
# *Fire Management Plan Environmental Assessment*

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

**Saint Croix Island International Historic Site**
C/o Acadia National Park
P.O. Box 177
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**Compilation Date: August 2004**

# United States Department of the Interior

NATIONAL PARK SERVICE
Acadia National Park
P.O. Box 177
Bar Harbor, Maine 04609

IN REPLY REFER TO:

August 10, 2004

L7617(ACAD)

Re: Saint Croix Island International Historic Site Fire Management Plan Environmental Assessment

Dear Interested Party:

The National Park Service is developing a wildland fire management plan for Saint Croix Island International Historic Site. Enclosed is a copy of the fire management plan environmental assessment for your comment and review. This environmental assessment was prepared pursuant to the National Environmental Policy Act (NEPA).

National Park Service Wildland Fire Management Director's Orders (DO-18) mandates, "All parks with vegetation that can sustain fire must have a fire management plan." The purpose of this federal action is to develop a plan to guide park managers in protecting human health and safety, natural and cultural resources, and developed facilities from the adverse effects of wildland fire. Issues to be addressed in the plan include protecting visitors, neighbors and National Park Service staff from fire, reducing hazardous fuels, working with park neighbors to prevent fires and fire damage, and protecting cultural and natural resources associated with the site. The superintendent of Acadia National Park administers Saint Croix Island International Historic Site.

Additional information concerning the Saint Croix Island International Historic Site Fire Management Plan can be obtained from:

Douglas C. Jones, Fire Management Officer
Saint Croix Island International Historic Site
c/o Acadia National Park
P.O. Box 177
Bar Harbor, ME 04609-0177

Written comments on the plan and environmental assessment will be accepted through September 13, 2004. Please include the following information when submitting comments:

1. Name, address, and (if possible) telephone number;

2. Title of the document on which the comments are being submitted; and,
3. Specific facts of comments, along with the supporting reasons, that the Superintendent should consider in reaching a final decision.

Comments on this plan and environmental assessment can be provided by e-mail (doug_jones@nps.gov), by fax: (207) 288-8709, or by mail to Sheridan Steele, Superintendent, Saint Croix Island International Historic Site, c/o Acadia National Park, P.O. Box 177, Bar Harbor, ME 04609-0177.

Please note that names and addresses of people who comment become part of the public record. If you wish for us to withhold your name and/or address, you must state this prominently at the beginning of your comment. We will make all submissions from organizations, businesses, and individuals identifying themselves as representatives or officials of organizations or businesses available for public inspection in their entirety.

Thank you for your interest in Saint Croix Island International Historic Site.

Sincerely,

Sheridan Steele
Superintendent

Enclosure

# TABLE OF CONTENTS

**ITEM** **PAGE**

**CHAPTER 1 PURPOSE AND NEED** ..... 1-1

1.1 Introduction ..... 1-1
1.2 Purpose and Need ..... 1-2
1.3 Background ..... 1-3
1.4 Fire Management Objectives ..... 1-4
1.5 Scoping Issues and Impact Topics ..... 1-6
1.5.1 Impact Topics Considered in this Environmental Assessment ..... 1-6
1.5.2 Impact Topics Considered but Dropped from Further Analysis ..... 1-8

**CHAPTER 2 ISSUES AND ALTERNATIVES** ..... **2-1**

2.1 Alternatives Considered but not Analyzed Further in this Environmental Assessment ..... 2-1
2.1.1 Fire Management Plan to include Wildland Fire Use ..... 2-1
2.1.2 Fire Management Plan to include Prescribed Fire Use ..... 2-1
2.2 Alternatives Considered and Analyzed in this Environmental Assessment ..... 2-2
2.2.1 Alternative 1 (No Action Alternative) – Continue to Operate Without the Guidance of a Fire Management Plan and Suppress all Wildland Fires ..... 2-2
2.2.2 Alternative 2 – (NPS Preferred Alternative) - Fire Management Plan to Include Cooperative Wildland Fire Suppression, Manual/Mechanical Hazard Fuel Reduction Treatments, and Investigating the Future Use of Prescribed Fire ..... 2-2
2.2.3 Environmentally Preferred Alternative ..... 2-4
2.3 Monitoring and Mitigation Measures ..... 2-5
2.3.1 Fire Management Activities ..... 2-5
2.3.2 Air, Soils and Water Resources (Including Floodplains) ..... 2-6
2.3.3 Property ..... 2-7
2.3.4 Fire Fighter and Public Safety ..... 2-7
2.3.5 Cultural Resources ..... 2-7
2.4 How Alternatives Address Fire Management Goals ..... 2-8
2.5 Comparison of Alternatives ..... 2-11
2.6 Impact Definitions ..... 2-14

**CHAPTER 3 ENVIRONMENTAL ANALYSIS** ..... **3-1**

3.1 Soils ..... 3-1
3.1.1 Affected Environment ..... 3-1
3.1.2 Environmental Consequences ..... 3-1
3.1.2.1 Alternative 1 (No Action) ..... 3-1
3.1.2.2 Alternative 2 (NPS Preferred Alternative) ..... 3-2
3.1.3 Conclusion ..... 3-2
3.2 Water Resources (Including Wetlands and Floodplains) ..... 3-3
3.2.1 Affected Environment ..... 3-3
3.2.2 Environmental Consequences ..... 3-3
3.2.2.1 Alternative 1 (No Action) ..... 3-4
3.2.2.2 Alternative 2 (NPS Preferred Alternative) ..... 3-4

3.2.3 Conclusion ..... 3-5
3.3 Vegetation ..... 3-5
3.3.1 Affected Environment ..... 3-5
3.3.2 Environmental Consequences ..... 3-6
3.3.2.1 Alternative 1 (No Action) ..... 3-6
3.3.2.2 Alternative 2 (NPS Preferred Alternative) ..... 3-6
3.3.3 Conclusion ..... 3-6
3.4 Wildlife ..... 3-7
3.4.1 Affected Environment ..... 3-7
3.4.2 Environmental Consequences ..... 3-8
3.4.2.1 Alternative 1 (No Action) ..... 3-8
3.4.2.2 Alternative 2 (NPS Preferred Alternative) ..... 3-9
3.4.3 Conclusion ..... 3-9
3.5 Air Quality ..... 3-10
3.5.1 Affected Environment ..... 3-10
3.5.2 Environmental Consequences ..... 3-10
3.5.2.1 Alternative 1 (No Action) ..... 3-10
3.5.2.2 Alternative 2 (NPS Preferred Alternative) ..... 3-11
3.5.3 Conclusion ..... 3-11
3.6 Visitor Use and Experience ..... 3-11
3.6.1 Affected Environment ..... 3-11
3.6.2 Environmental Consequences ..... 3-11
3.6.2.1 Alternative 1 (No Action) ..... 3-12
3.6.2.2 Alternative 2 (NPS Preferred Alternative) ..... 3-12
3.6.3 Conclusion ..... 3-12
3.7 Park Operations ..... 3-13
3.7.1 Affected Environment ..... 3-13
3.7.2 Environmental Consequences ..... 3-13
3.7.2.1 Alternative 1 (No Action) ..... 3-13
3.7.2.2 Alternative 2 (NPS Preferred Alternative) ..... 3-13
3.7.3 Conclusion ..... 3-13
3.8 Cultural Resources ..... 3-14
3.8.1 Affected Environment ..... 3-14
3.8.2 Environmental Consequences ..... 3-14
3.8.2.1 Alternative 1 (No Action) ..... 3-14
3.8.2.2 Alternative 2 (NPS Preferred Alternative) ..... 3-15
3.8.3 Conclusion ..... 3-16
3.9 Cumulative Impacts ..... 3-16

**CHAPTER 4 CONSULTATION AND COORDINATION ..... 4-1**

4.1 Compliance Requirements ..... 4-1
4.1.1 Federal ..... 4-1
4.1.1.1 National Environmental Protection Act ..... 4-1
4.1.1.2 Consultation with the U.S. Fish & Wildlife Service ..... 4-1
4.1.1.3 Consultation with the State Historic Preservation Officer and Maine Tribes .. 4-2
4.2 List of Preparers ..... 4-3

References Cited .....R-1

Distribution ..... D-1

Appendix A - Consultations with the Federally Recognized Tribes in Maine and Maine Historic Preservation Commission (SHPO)..... A-1

# LIST OF TABLES

**Table** **Page**

1-1 Impact Topics for Saint Croix Island International Historic Site Fire Management Plan Environmental Assessment.....1-10

2-1 How Alternatives Address Fire Management Goals.....2-8

2-2 Comparison of Alternatives.....2-11

2-3 Impact Definitions.....2-14

# LIST OF FIGURES

**Figure** **Page**

1-1 Saint Croix Island International Historic Site Vicinity.....1-11

2-1 Saint Croix Island International Historic Site Treatment Units – NPS Preferred Alternative.....2-13

# Chapter 1 - Purpose and Need

## 1.1 INTRODUCTION

This Environmental Assessment (EA) documents the results of a study of the potential environmental impacts of actions proposed in the Saint Croix Island International Historic Site fire management plan.

This EA has been prepared in compliance with:

- The National Environmental Policy Act (NEPA) of 1969 (42 United States Code (USC) 4321 et seq.), which requires an environmental analysis for major Federal Actions having the potential to impact the quality of the environment;
- Council of Environmental Quality Regulations at 40 Code of Federal Regulations (CFR) 1500-1508, which implement the requirements of NEPA;
- National Park Service Conservation Planning, Environmental Impact Analysis, and Decision Making; Director's Order (DO) #12 and Handbook.

***The Purpose of an Environmental Assessment (EA)***

There are three primary purposes of an EA:

- To help determine whether the impact of a proposed action or alternative could be significant, thus indicating that an environmental impact statement (EIS) is needed;
- To aid in compliance with NEPA when no EIS is necessary by evaluating a proposal that will have no significant impacts, but that may have measurable adverse impacts; and
- To facilitate preparation of an EIS if one is necessary.

Key goals of NEPA are to help Federal agency officials make well-informed decisions about agency actions and to provide a role for the general public in the decision-making process. The study and documentation mechanisms associated with NEPA seek to provide decision-makers with sound knowledge of the comparative environmental consequences of the several courses of action available to them. NEPA studies, and the documents recording their results, such as this EA, focus on providing input to the particular decisions faced by the relevant officials. In this case, the Superintendent of Saint Croix Island International Historic Site is faced with a decision to develop the park's fire management plan as described below. This decision will be made within the overall management framework already established in the Saint Croix Island International Historic Site's 1998 General Management Plan and the 2001 Federal Wildland Fire Management policy and guidelines. Therefore the alternative courses of action that are, unless otherwise noted, crafted to be consistent with these documents**.**

In making decisions about National Park Service administered resources, the National Park Service is guided by the requirements of the 1916 Organic Act and other laws, such as the Clean Air Act, Clean Water Act, and Endangered Species Act. The authority for the conservation and management of the National Park Service is clearly described in the Organic Act, which states the agency's purpose: "...to conserve the scenery and the natural and historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means

as will leave them unimpaired for the enjoyment of future generations." This authority was further clarified in the National Parks and Recreation Act of 1978: "Congress declares that...these areas, though distinct in character, are united...into one national park system.... The authorization of activities shall be construed and the protection, management, and administration of these areas shall be conducted in light of the high public value and integrity of the National Park System and shall not be exercised in derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress."

In recognition of the historic significance of the area, Saint Croix Island was authorized by the United States Congress as a national monument on June 8, 1949, "for the benefit of the people of the United States" (63 Stat. 158). St Croix Island was formally dedicated as a national monument on June 30, 1968. On September 25, 1984, the United States Congress redesignated the national monument as Saint Croix Island International Historic Site "in recognition of the historic significance to both the United Sates and Canada" (98 Stat. 1615).

The requirements placed on the National Park Service by these laws, especially the Organic Act, mandate that resources are passed on to future generations "unimpaired" (DOI, 2001a). An impairment is an impact that, in the professional judgment of the responsible National Park Service manager, would harm the integrity of park resources or values, including opportunities that otherwise would be present for the enjoyment of those resources or values. An impact would be less likely to constitute an impairment to the extent that it is an unavoidable result from an action necessary to preserve or restore the integrity of park resources or values (DOI, 2001b). This EA addresses whether the actions of the various alternatives proposed by the National Park Service at Saint Croix Island International Historic Site impair resources or values that are (1) necessary to fulfill specific purposes identified in the enabling legislation of the park, (2) key to the natural or cultural integrity of the park or opportunities for enjoyment of the park, and (3) identified as a goal in the park's general management plan or other National Park Service planning documents (see *Chapter 3 – Environmental Consequences*).

## 1.2 PURPOSE AND NEED

Ecological and meteorological evidence indicates that lightning-caused fires were a major environmental force shaping the vegetation of North America for millions of years prior to human habitation (USDA 2000c). Fire-adapted ecosystems developed, as did individual plant species dependent upon or adapted to wildland fire. According to fire ecologist Dr. Cecil Frost (1998), "…fire once played a role in shaping all but the wettest, the most arid, or the most fire-sheltered plant communities of the United States." In Maine, mean wildland fire return intervals are typically long; in fact, fire is a less important disturbance agent than windthrow or insect infestations. In the northern hardwood and coniferous forests of Maine, mean fire intervals in presettlement forests ranged from 230 to 4,970 years. In New Brunswick, fire rotations have been estimated at 625 years in both sugar maple-yellow birch-fir and sugar maple-eastern hemlock-pine forests (USDA, 2004). The historical fire frequency in the general vicinity of the mainland portion of Saint Croix is once every 100 to 200 years, and can burn with stand replacing severity (Schmidt, *et al*, 2002).

National Park Service (NPS) policy (*Director's Order #18: Wildland Fire Management)* requires that every park unit with burnable vegetation develop a fire management plan (FMP) approved by the park superintendent. The FMP serves as a detailed and comprehensive program of action to implement fire management policy principles and goals, consistent with the unit's resource management objectives. The park's fire management program, guided by federal policy and the park's resource management objectives, will serve to protect life, property, and natural and cultural resources.

Since 1968, when Saint Croix Island International Historic Site first entered National Park Service administration, all wildland fires within its boundaries have been suppressed. The annual occurrence of wildland fires at Saint Croix is very low. Only two wildland fires are known to have occurred within the park in the past 15 years. One fire occurred on Saint Croix Island and the other fire occurred on the mainland. Both fires are known to have been human caused.

## 1.3 BACKGROUND

The authorized boundary of Saint Croix Island International Historic Site includes just 45 acres. Saint Croix Island International Historic Site 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. The park consists of Saint Croix Island, a 6.5-acre island in the Saint Croix River and two mainland sections totaling 38.5 acres. Of the two mainland sections, one section is located on the shores of the Saint Croix River shore overlooking the island, while the other section is located just west of Route 1.

The site on Saint Croix Island was the first attempt by the French to establish a colony in l'Acadie (Acadia). Saint Croix Island was one of the earliest European settlements in North America, established in 1604 by Pierre Dugua with 79 men including Samuel Champlain. Although the colonists ultimately abandoned the settlement in 1605 due to harsh winter conditions, these insights help to form the foundation for a more successful settlement in Port Royal, Nova Scotia, and an enduring French presence in North America.

Archeological evidence suggests that the area around Saint Croix Island had already been inhabited for at least 3,000 years before European settlement by Native American groups known collectively as the Wabanaki people. Today, the Wabanaki people are represented by the following federally recognized tribes in Maine: Passamaquoddy Tribes at Indian Township and Pleasant Point; Penobscot Nation; Houlton Band of Maliseet Indians; and Aroostook Band of Micmacs. The Passamaquoddy were living in the immediate vicinity of the island, even providing food to the French settlers after the harsh winter of 1604. Tribal members continue to have an enduring connection to Saint Croix Island up to the present day. Due to the cultural importance of the island to tribal members, tribal representatives are reviewing this document and are being consulted by the NPS prior to implementation of the proposed plan, as per Executive Order 13175 "Consultation and Coordination with Indian Tribal Governments."

# 1.4 FIRE MANAGEMENT OBJECTIVES

National Park Service Wildland Fire Management policies are found in Director's Orders #18 (DO-18) and require that all parks with vegetation capable of sustaining fire develop a wildland fire management plan that will meet the specific resource management objectives for that park and ensure that firefighter and public safety are not compromised. This guideline identifies fire as the most aggressive natural resource management tool employed by the National Park Service. DO-18 further states that all fires in the wildland are classified as either wildland fires or prescribed fires. Prescribed fires and wildland fire use may be authorized by an approved wildland fire management plan and contribute to a park's resource management objectives. Human-caused wildland fires are unplanned events and may not be used to achieve resource management objectives by a park.

***Wildland*** is an area in which development is essentially nonexistent, except for roads, railroads, power lines, and similar transportation facilities. Structures, if any, are widely scattered.

***Wildland Fires*** are any non-structural fires, other than prescribed fires, that occur in the wildland. This term encompasses fires previously called both wildland fires and prescribed natural fires.

***Prescribed Fires*** are any fires ignited by management actions in defined areas under predetermined weather and fuel conditions to meet specific objectives.

***Wildland Fire Use*** is the management of naturally ignited (*e.g.* lightning) wildland fires to accomplish specific pre-stated resource management objectives in predefined geographic areas outlined in Fire Management Plans.

***Wildland/Urban Interface*** is that line, area, or zone where structures and other human development meets or intermingles with undeveloped wildland or vegetative fuels.

DO-18 identifies three paramount considerations for each park's fire management program. They are:

- Protect human life and property both within and adjacent to park areas;
- Perpetuate, restore, replace, or replicate natural processes to the greatest extent practicable; and
- Protect natural and cultural resources and intrinsic values from unacceptable impacts attributable to fire and fire management activities.

Objectives, as described in the park's 1998 General Management Plan, associated with the goal of preserving park resources that directly applies to fire management include:

- Cultural resources that are associated with the 1604 to 1605 French colonization of North America, and the island itself, are protected, restored, and maintained in good condition; and managed within their broader cultural context, including other National Park Service and Parks Canada units interpreting early European colonization and contact with Native peoples.
- Natural resources on the island and on the mainland parcels, including land, water, and wildlife habitats, are protected, restored, and maintained in good condition; and managed within their broader ecosystem and cultural context.

- Lands within the park boundary are managed to protect the parks natural and cultural resources in their relatively natural setting, and to assure an adequate base for site management and public use.

- The National Park Service contributes to knowledge about cultural and natural resources and associated values at Saint Croix Island International Historic Site; management decisions about resources and visitors are based on adequate scholarly and scientific information.

The goals of the Saint Croix Island International Historic Site fire management plan include:

- Protect life and property

- Protect human health and safety

- Protect cultural resources

- Protect natural resources

- Educate park staff and the public

The overall objectives to meet the goals of the Saint Croix fire management plan include:

- Suppress all wildland fire in a cost-effective manner, consistent with resource objectives, considering firefighter and public safety (always the highest priority), and values to be protected (including adjacent non-agency land).

- Manage all wildland fire incidents in accordance with accepted interagency standards, using appropriate management strategies and tactics, and maximizing efficiency via interagency coordination and cooperation.

- Develop and conduct a hazard fuel treatment program to reduce the likelihood of the start and spread of a wildland fire, the movement of a wildland fire across park boundaries and the destruction of park and adjacent private structures from a wildland fire.

- Maintain existing and develop new agreements with state and local agencies in order to facilitate close working relationships and mutual cooperation regarding fire management activities.

- Develop and conduct a monitoring program with recommended standard monitoring levels commensurate with the scope of the fire management program, and use the information gained to continually evaluate and improve the fire management program.

- Integrate knowledge gained through natural resource research into future fire management decisions and actions.

- Maintain the highest standards of professional and technical expertise in planning and safely implementing an effective fire management program.

- Incorporate minimum impact suppression tactics policy into all suppression activities, to the greatest extent feasible and appropriate.

- Educate employees and the public about the scope and effects of wildland fire and prescribed fire.

## 1.5 SCOPING ISSUES AND IMPACT TOPICS

On April 15, 2004, the park sent scoping letters to a mailing list of 18 individuals and organizations describing and soliciting comments on the proposed fire management plan. The mailing list included all of the abutting or inholder landowners, the local fire department, the Maine Forest Service, the Maine State Planning Office, Parks Canada, the Saint Croix River International Waterway Commission and a fire ecologist from the University of Massachusetts. No public comments concerning the Fire Management Plan were received. As a result, park personnel developed all alternatives and impacts to be considered in this EA.

### *1.5.1 Impact Topics Considered in this Environmental Assessment*

Impact topics are derived from issues raised during internal and external scoping. Not every conceivable impact of a proposed action is substantive enough to warrant analysis. The following topics, however, do merit consideration in this EA:

**Soils**: Low and moderate-severity fires can benefit soils through a fertilization effect, while high-intensity fires can damage soils; therefore, impacts to soils are analyzed in this EA.

**Water Resources (including Wetlands and Floodplains)**: National Park Service policies require protection of water resources consistent with the Federal Clean Water Act. Hazard fuel reduction treatments, prescribed fires and fire suppression efforts can adversely impact water quality (sediment delivery, turbidity); therefore, impacts to water resources are analyzed in this EA.

**Vegetation**: The interior upland plateau of Saint Croix Island is dominated by a mowed area composed of perennial grasses and herbs. It also contains patches of trees and herbaceous and woody plants that create a mixed successional forest-shrub fringe. Hazard fuel reduction treatments, prescribed fires, and fire suppression efforts can affect vegetation communities and rare plant species; therefore, impacts to vegetation are analyzed in this EA.

**Wildlife**: There are resident populations of various species of reptiles, amphibians, birds, mammals, fish, and invertebrates that can be adversely and/or beneficially impacted by hazard fuel reduction treatments and wildland fire suppression. Therefore, impacts to wildlife are evaluated in this EA.

**Threatened and Endangered Species**: The Federal Endangered Species Act prohibits harm to any species of fauna or flora listed by the U.S. Fish & Wildlife Service (USFWS) as being either threatened or endangered. Such harm includes not only direct injury or mortality, but also disrupting the habitat on which these species depend. 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 park along the mainland shoreline, however, according to park staff, there is currently no nesting activity within or adjacent to the park (Connery, 2004). Therefore, impacts to T&E species are analyzed in this EA.

**Air Quality**: The Federal 1970 Clean Air Act stipulates that Federal agencies have an affirmative responsibility to protect a park's air quality from adverse air pollution impacts. All types of fires generate smoke and particulate matter, which can impact air quality within the park and surrounding region. In light of these considerations, air quality impacts are analyzed in this EA.

**Visitor Use and Experience**: The 1916 National Park Service Organic Act directs the Service to provide for public enjoyment of the scenery, wildlife and natural and historic resources of national parks "in such a manner and by such means as will leave them unimpaired for the enjoyment of future generations." Fire management activities can result in the temporary closure of certain areas and/or result in visual impacts that may affect the visitor use and experience of the park. Therefore, potential impacts of the proposed FMP on visitor use and experience are addressed in this EA.

**Cultural Resources:** Section 106 of the National Historic Preservation Act of 1966, as amended, provides the framework for Federal review and protection of cultural resources, and ensures that they are considered during Federal project planning and execution. Cultural resources at the park are divided between Saint Croix Island and the mainland. The island contains a boathouse associated with the lighthouse complex, a boulder with a 1904 plaque, and several archeological sites, including a Native American site, the 1604 French settlement, and an 18th – 20th century settlement (farming and lighthouse complex). The mainland portion of the park contains the McGlashan-Nickerson house and garage with remnant landscape features (meadow, apple trees, garden) and the Pettegrove-Livingstone house and garage (with additional landscape significance [Downingesue]), both of which are on the National Historic Register. The Lane-Robb house is ineligible to the NR individually but may contribute to a historic district nomination. There are also possible archeological remains of activities associated with 19th century granite and plaster industries, and a Native American site.

**Park Operations**: Severe fires can potentially affect operations at national parks, especially in more developed sites like visitor centers, campgrounds, administrative and maintenance facilities. These impacts can occur directly from the threat to facilities of an approaching fire, and more indirectly from smoke and the diversion of personnel to firefighting. Fires have caused closures of facilities in parks around the country. Thus, the potential effects of the FMP alternatives on park operations will be considered in this EA.

### *1.5.2 Impact Topics Considered but Dropped from Further Analysis*

NEPA and the CEQ Regulations direct agencies to "avoid useless bulk…and concentrate effort and attention on important issues" (40 CFR 1502.15). Certain impact topics that are sometimes addressed in NEPA documents on other kinds of proposed actions or projects have been judged to not be substantively affected by any of the FMP alternatives considered in this EA. These topics are listed and briefly described below, and the rationale provided for considering them, but dropping them from further analysis.

**Soundscape**: Noise is defined as unwanted sound. Fuels reduction, prescribed fires and fire suppression efforts can all involve the use of noise-generating mechanical tools and devices with engines, such as chain saws and trucks. Chainsaws, at close range, are quite loud (in excess of 100 decibels). The use of machines, such as chainsaws, would be infrequent in light of the limited hazard fuel reduction to be conducted in the park (on the order of hours, days, or at most weeks per year). This is not frequent enough to substantially interfere with human activities in the area or with wildlife behavior. Nor would such infrequent bursts of noise chronically impact the solitude and tranquility associated with the park. Therefore, this impact topic is eliminated from further analysis in this EA.

**Human Health and Safety**: Wildland fires can be extremely hazardous, even life threatening, to humans, and current federal fire management policies emphasize that firefighter and public safety is the first priority; all fire management plans must reflect this commitment (NIFC, 1998). Since every caution would be taken during all fire management activities. Neither of the proposed alternatives would constitute a threat to human health and safety, therefore human health and safety are not addressed in this EA.

**Waste Management**: None of the FMP alternatives would generate noteworthy quantities of either hazardous or solid wastes that need to be disposed of in hazardous waste or general sanitary landfills. Therefore, this impact topic is dropped from additional consideration.

**Utilities**: Generally speaking, some kinds of projects, especially those involving construction, may temporarily impact above and below-ground telephone, electrical, natural gas, water, and sewer lines and cables, potentially disrupting service to customers. Other proposed actions may exert a substantial, long-term demand on telephone, electrical, natural gas, water, and sewage infrastructure, sources, and service, thereby compromising existing service levels or causing a need for new facilities to be constructed. None of the FMP alternatives would cause any of these effects to any extent, and therefore utilities are eliminated from any additional analysis.

**Land Use**: Visitor and administrative facilities occur within the park. Fire management activities would not affect land uses within the park or in areas adjacent to it; therefore, land use is not included for further analysis in this EA.

**Socio-economics**: NEPA requires an analysis of impacts to the "human environment" which includes economic, social and demographic elements in the affected area. Fire management activities may bring a short-term need for additional personnel in the park, but this addition would be minimal and would not affect the neighboring community's overall population, income

and employment base. Therefore, this impact topic is not included for further analysis in this EA.

**Transportation**: None of the FMP alternatives would substantively affect road, railroad, water-based, or aerial transportation in and around the park. One exception to this general rule would be the temporary closure of nearby roads during fire suppression activities or from smoke emanating from wildland fires or prescribed fires. Over the long term, such closures would not significantly impinge local traffic since they would be both very infrequent, and, in the case of prescribed fire, of short duration (on the magnitude of 1-2 hours). Therefore, this topic is dismissed from any further analysis.

**Environmental Justice / Protection of Children**: Presidential Executive Order 12898 requires Federal agencies to identify and address disproportionate impacts of their programs, policies and activities on minority and low-income populations. Executive Order 13045 requires Federal actions and policies to identify and address disproportionately adverse risks to the health and safety of children. None of the alternatives would have disproportionate health or environmental effects on minorities or low-income populations as defined in the Environmental Protection Agency's Environmental Justice Guidance; therefore, these topics are not further addressed in this EA.

**Indian Trust Resources**: Indian trust assets are owned by Native Americans but held in trust by the United States. Indian trust assets do not occur within Saint Croix Island International Historic Site and are therefore not evaluated further in this EA.

**Prime and Unique Agricultural Lands**: Prime farmland has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops. Unique land is land other than prime farmland that is used for production of specific high-value food and fiber crops. Both categories require that the land is available for farming uses. There are no prime and unique agricultural lands found at Saint Croix Island International Historic Site; therefore, this impact topic is not evaluated further in this EA.

**Wilderness**: According to National Park Service Management Policies (2001), proposals having the potential to impact wilderness resources must be evaluated in accordance with National Park Service procedures for implementing the National Environmental Policy Act. Since there are no proposed or designated wilderness areas within or adjacent to the park, wilderness impacts are not further evaluated in this EA.

**Resource Conservation, Including Energy, and Pollution Prevention**: The National Park Service's *Guiding Principles of Sustainable Design* provides a basis for achieving sustainability in facility planning and design, emphasizes the importance of biodiversity, and encourages responsible decisions. The guidebook articulates principles to be used such as resource conservation and recycling. Proposed project actions would not minimize or add to resource conservation or pollution prevention in the park and, therefore, this impact topic is not evaluated further in this EA.

Table 1-1 Impact Topics the Saint Croix Island International Historic Site Fire Management Plan Environmental Assessment

| Impact Topic | Retained or Dismissed from Further Evaluation | Relevant Regulations or Policies |
|---|---|---|
| Soils | Retained | NPS *Management Policies 2001* |
| Water Resources | Retained | Clean Water Act; Executive Order 12088; NPS *Management Policies;* Maine Natural Resources Protection Act |
| Floodplains and Wetlands | Retained | Executive Order 11988; Executive Order 11990; Rivers and Harbors Act; Clean Water Act; NPS *Management Policies;* Maine Natural Resources Protection Act; Maine Soil Erosion Control Act |
| Vegetation | Retained | Coastal Zone Management Act of 1972; NPS *Management Policies;* National Fire Plan |
| Wildlife | Retained | NPS *Management Policies* |
| Threatened and Endangered Species and their Habitats | Retained | Endangered Species Act; NPS *Management Policies* |
| Air Quality | Retained | Federal Clean Air Act (CAA); CAA Amendments of 1990; NPS *Management Policies* |
| Visitor Use and Experience | Retained | NPS *Management Policies* |
| Cultural Resources | Retained | Section 106; National Historic Preservation Act; 36 CFR 800; NEPA; Executive Order 13007; Director's Order #28; NPS *Management Policies* |
| Park Operations | Retained | NPS *Management Policies* |
| Noise | Dismissed | NPS *Management Policies* |
| Human Health & Safety | Dismissed | NPS *Management Policies* |
| Waste Management | Dismissed | NPS *Management Policies* |
| Utilities | Dismissed | NPS *Management Policies* |
| Land Use | Dismissed | NPS *Management Policies* |
| Socioeconomics | Dismissed | 40 CFR Regulations for Implementing NEPA; NPS *Management Policies* |
| Transportation | Dismissed | NPS *Management Policies* |
| Environmental Justice | Dismissed | Executive Order 12898 |
| Indian Trust Resources | Dismissed | Department of the Interior Secretarial Orders No. 3206 and No. 3175 |
| Prime and Unique Agricultural Lands | Dismissed | Council on Environmental Quality 1980 memorandum on prime and unique farmlands |
| Wilderness | Dismissed | The Wilderness Act; Director's Order #41; NPS *Management Policies* |
| Resource Conservation, Including Energy, and Pollution Prevention | Dismissed | NEPA; NPS *Guiding Principles of Sustainable Design*; NPS *Management Policies* |

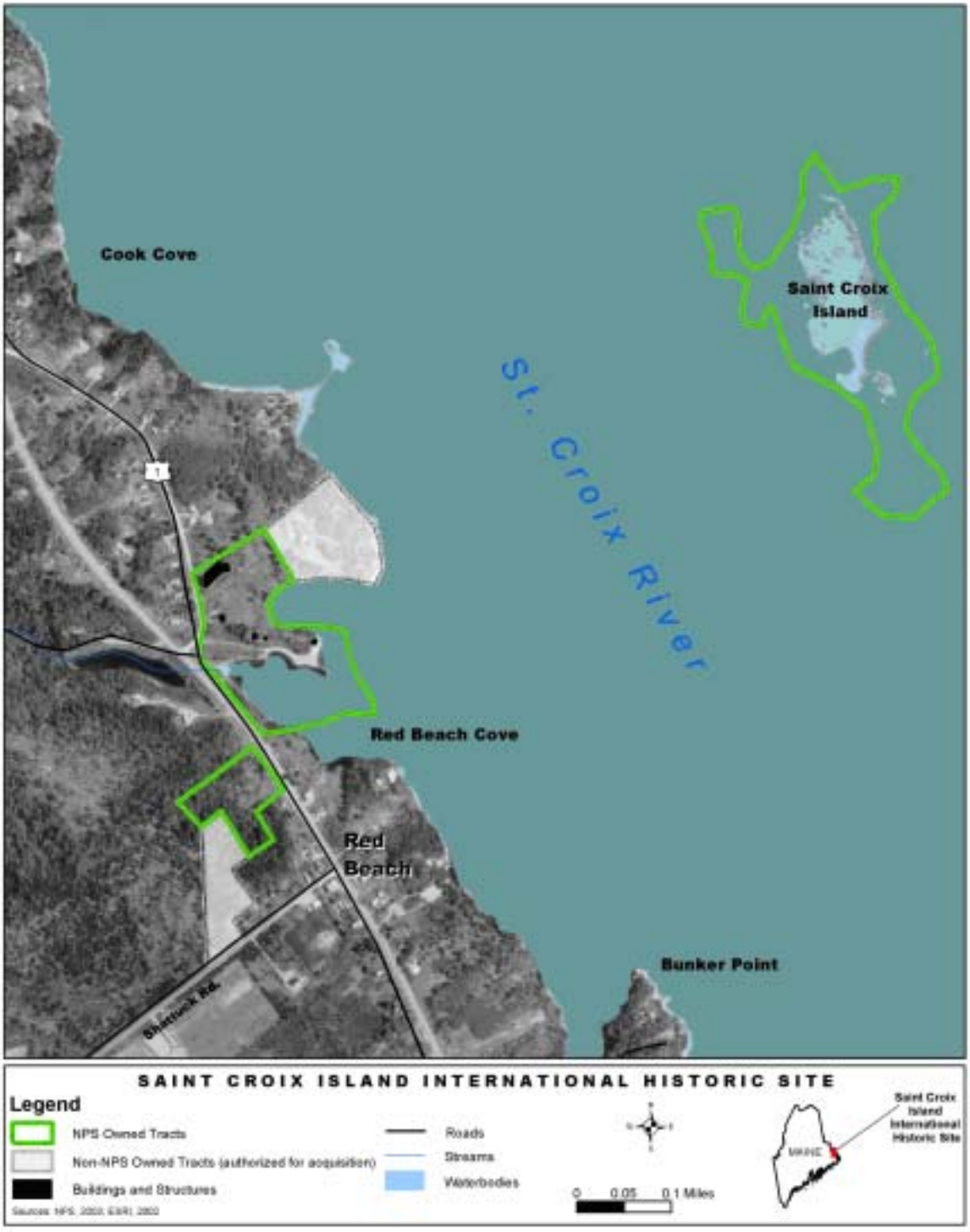


**Figure 1-1 Saint Croix Island International Historic Site Vicinity**

# Chapter 2 - Issues and Alternatives

This Chapter describes the range of alternatives, including the Proposed Action and No Action Alternatives, formulated to address the purpose of and need for the proposed project. These alternatives were developed through evaluation of the comments provided by individuals, organizations, governmental agencies, and park specialists.

## 2.1 ALTERNATIVES CONSIDERED BUT NOT ANALYZED FURTHER IN THIS EA

### *2.1.1 Fire Management Plan to include Wildland Fire Use*

Wildland fire use involves the management of fires ignited by natural means (usually lightning) that are permitted to burn under specific environmental conditions for natural resource benefits. In many cases, national parks and forests employ wildland fire use as a part of their fire management program to obtain natural resource benefits from wildland fire. These parks and forests typically have large acreages and the areas identified for its use contain few if any private residences and structures nearby (wildland urban interface). In such cases, wildland fire use is a critical component in meeting fire management objectives of federal agencies.

The use of wildland fire was considered but not analyzed further in this EA because of current staffing limitations at the park, the close proximity of private residences near the park, and the fact that the current authorized boundary of the park (45 acres) is far too small to ensure fire containment within park boundaries.

Park staff concluded that the potential risks to human health and safety and natural/cultural resources under this alternative outweigh any potential resource benefits that would be obtained from including wildland fire use into the fire management plan.

### *2.1.2 Fire Management Plan to include Prescribed Fire Use*

Prescribed fires are any fires ignited by park personnel as part of management actions in defined areas under predetermined weather and fuel conditions to meet specific management objectives. The use of prescribed fire as a management tool on Saint Croix Island was considered but not analyzed further in this EA because of the current lack of general information on what the actual impacts prescribed fire would have on the island's ecological and cultural resources. Park personnel expressed concerns regarding the impacts that prescribed fire would have on the highly erosive nature of islands soils and native vegetative communities. It was their contention that if prescribed fire were to denude the island of vegetation, it would increase the rate of erosion that occurs on the island, which in turn could harm the cultural resources found on the island. In addition, the park's botanist identified the island's native vegetation as being neither fire-dependant nor fire-adapted. She felt that the park's current practice of mowing the interior of the island adequately inhibits the spread of woody vegetation into the designated open areas.

## 2.2 ALTERNATIVES CONSIDERED AND ANALYZED IN THIS EA

Due to limited range of possible fire management activities being considered by the staff at Saint Croix Island International Historic Park, only two alternatives are being considered for this EA.

### *2.2.1 Alternative 1 (No Action Alternative) – Continue to Operate without the Guidance of a Fire Management Plan and Suppress all Wildland Fires*

Under this alternative, the park would continue to operate without the guidance of a fire management plan. All wildland fires in the park, regardless of origin, would be declared wildland fires and suppressed. All wildland fire suppression would continue to be conducted by the Calais Fire Department without an agreement with the National Park Service concerning resource management objectives.

### 2.2.2 *Alternative 2 (NPS Preferred Alternative) - Fire Management Plan to Include Cooperative Wildland Fire Suppression, Manual/Mechanical Hazard Fuel Reduction Treatments, and Investigating the Future Use of Prescribed Fire*

Due to the relative uniformity and small size of the park (45 acres), Saint Croix Island International Historic Site would be managed as a single fire management unit (FMU). A FMU is any land management area definable by objectives, topographic features, access, values-to-be-protected, political boundaries, fuel types, or major fire regimes, etc., that sets it apart from management characteristics of an adjacent unit. FMUs are delineated in fire management plans. These units may have dominant management objectives and pre-selected strategies assigned to accomplish these objectives. (NPS, 1999)

Under this alternative, the fire management plan would suppress all wildland fires, research the future use of prescribed fire as a management tool, and provide for manual/mechanical hazard fuel reduction treatments to maintain designated open areas, reduce fuel loadings within the park, create fuel breaks along park boundaries, and create and maintain defensible space around park structures on the mainland portion of the park. Defensible spaces are areas around structures kept free of flammable vegetation concentrations, which allow firefighters a safe working area within which to attack an oncoming wildland fire. Management objectives of the fire management plan would include:

- Suppress all wildland fires.
- Protect and maintain the historic and cultural landscape on Saint Croix Island and the mainland.
- Reduce hazard fuel accumulations around park structures, along park boundaries and in areas of high visitor use, which in turn:
    - Reduces the threat of catastrophic wildland fire, and reduces the risk of negative impacts to park resources and park neighbors in the event of a wildland fire.
    - Improves conditions for firefighter and public safety, and reduces suppression costs in the event of a wildland fire.
        - In all cases, fuels considered to be “hazard” would primarily be dead, down, and diseased timber, ladder fuels, non-ornamental shrubs,

undergrowth and fallen limbs, of less than 4 inches dbh (diameter at breast height). Remaining live trees would be limbed to approximately 12 feet from the base of tree. All downed trees larger than 24 inches in diameter may remain in the fuel break, but must lie flush to the ground, with limbs cut and removed. All debris would either be chipped on-site or hauled from the park to an approved location for disposal.

The appropriate management response (AMR) would be applied to every fire suppression action taken within the park. The AMR is any specific action suitable to meet fire management unit (FMU) objectives. Since the park is being managed as one FMU, this would also apply to the fire management plan objectives. Typically, the AMR ranges across a spectrum of tactical options (from monitoring to intensive management actions). The AMR is developed by using strategies and objectives identified in the fire management plan. The AMR for fires within the park would be developed in cooperation with the Calais Fire Department, who would provide the principle wildland fire response to the park. As a result, all wildland fires in the park, regardless of origin would be suppressed in a manner that minimizes adverse environmental and cultural impacts resulting from suppression activities. Examples of suppression tactics that might cause environmental harm include building firelines within known cultural areas and excessive cutting of trees. These and similar impacts would be avoided. All wildland fire suppression activities would adhere to Minimum Impact Suppression Tactics (MIST) guidelines as outlined in Section 2.3 *Mitigation Measures and Monitoring* of this EA. The concept of MIST is to use the least amount of forces necessary to effectively achieve the fire management protection objectives consistent with resource management objectives. It takes into account the impacts of suppression tactics and their long-term effects when determining how to implement an appropriate suppression response. In some cases MIST may indicate that cold trailing or wet line may be more appropriate than constructed fireline. Cold trailing is a method of controlling a partly dead fire edge by carefully inspecting and feeling with the hand for heat to detect any fire, digging out every live spot and trenching any live edge. A wet line is a line of water sprayed along the ground that serves as a temporary control line from which to ignite or stop a low-intensity fire. Individual determinations would be dependent on the specific situation and circumstances of each fire (See Section 2.3 of this EA for specific minimum impact suppression tactics that would be considered for use at the park.).

Manual and mechanical hazard fuel treatments (e.g. chainsaws, mowers, and brush hogs) would be used to maintain designated open areas on Saint Croix Island (roughly 5 acres), reduce fuel loadings in high visitor use areas within the mainland portion of the park, create firebreaks along the park's mainland perimeter, and maintain defensible space around park buildings. All hazard fuel reduction treatments would be reviewed and approved by the park's cultural resources specialist prior to implementation of those treatments.

Firebreaks, 10-feet wide, would be created by removing hazard fuels along the vegetated sections of the mainland park unit boundary, which totals approximately 2,855 linear feet and 0.65 acres. The boundary firebreaks would be created by mechanical and manual means through the use of bush hogs, chainsaws, chippers, and hand tools. The cleared vegetation would either be chipped or hauled off site.

Heavy concentrations of finer fuels (dead twigs, branches limbs, fallen tree tops, etc) would be removed from areas of high visitor use on the mainland sections of the park. When dried, these fuels are readily available for burning. Since the only known wildland fires within the park have been human caused, removing these fuels from the proximity of park visitors would greatly reduce the potential for the start and spread of wildland fires within the park.

Defensible space around each of the park's structures would be created and maintained by regular mowing and removing hazard fuels, to the greatest extent possible, around each structure to a distance of no less than 30-feet. Defensible space is the area around a structure that can be treated in such a way as to reduce the chance that wildland fire would reach the structure. Hazard fuels that would be removed would be dead, down, and diseased timber, ladder fuels, non-ornamental shrubs, undergrowth and fallen limbs, and non-ornamental trees of less than 4 inches dbh (diameter at breast height). Remaining live trees would be limbed to approximately 12 feet from the base of tree. These standards would be modified, where appropriate to maintain historical and culturally significant landscapes. Written prescriptions for these treatments would be developed by the park's fire management staff and reviewed and approved by the park's cultural resource specialist prior to any treatment work around park structures.

While the use of prescribed fire as a management tool in the park is not being considered in this fire management plan, its use as a management tool in future fire management plans has not yet been totally rejected. Under this alternative, the park would research prescribed fire use through both qualitative (e.g. literature reviews, guidance from the U.S. Fish & Wildlife Service, who has experience in applying prescribed fire to the fuel types found in the park and in the general area of the park) and quantitative research (test plots on the island) to determine if prescribed fire would be a useful and beneficial management tool at the park. The results of this research would be used to determine whether prescribed fire use would be included in future fire management plans.

A program to educate park employees and the public about the scope and effects of wildland fire and prescribed fire would be developed. A wildland/urban interface outreach program would be developed to provide local homeowners with information on how to protect their homes from wildland fire. This program would include on-site evaluations of homeowner properties and recommendations for improving the survivability of their properties.

### *2.2.3 Environmentally Preferred Alternative*

The National Park Service is required to identify the environmentally preferred alternative(s) for any of its proposed projects. That alternative is the alternative that will promote the national environmental policy expressed in NEPA (Section 101 (b)). This includes alternatives that:

1) fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;

2) ensure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings;

3) attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences;

4) 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;

5) achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities; and

6) enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

In essence, the environmentally preferred alternative would be the one(s) that "causes the least damage to the biological and physical environment; it also means the alternative which best protects, preserves, and enhances historic, cultural, and natural resources" (CEQ, 1978).

In this case, Alternative 2 is the environmentally preferred alternative for Saint Croix Island International Historic Site since it best meets goals 1, 2, 3, and 4 described above. Under this alternative, suppressing wildland fires, creating fire breaks around the park perimeter, reducing hazard fuel loadings, and creating defensible space around park structures would help protect park resources and adjacent lands and structures from the threat of wildland fires. Finally, Alternative 2 best protects and helps preserve the historic, cultural, and natural resources in the park for current and future generations.

## 2.3 MONITORING AND MITIGATION MEASURES

The National Park Service would collect information on hazard fuel reduction efforts, vegetative resources, and other objective-dependant variables after a fire. During prescribed fire research burns, data would be collected regarding the current fire conditions such as fuel and vegetation type, anticipated fire behavior and fire spread, current and forecasted weather, smoke volume and dispersal.

Mitigation measures are prescribed to prevent and/or mitigate adverse environmental impacts that may occur from fire management activities.

### *2.3.1 Fire Management Activities*

- All suppression activities would follow Minimum Impact Suppression Tactics (MIST) guidelines. These include:
  - Keep fire engines or slip-on units on existing roads;
  - Restrict the use of heavy equipment such as bulldozers or plows for constructing firelines. A tractor with box blade or disc would be used for fireline construction only in extreme situations and only on the mainland portion of the park when high value resources are at risk, and then only with the authorization of the superintendent or designee;

- Use existing natural fuel breaks and human-made barriers, wet line, or cold trailing the fire edge in lieu of handline construction whenever possible (cold trailing is a method of controlling a partly dead fire edge by carefully inspecting and feeling with the hand for heat to detect any fire, digging out every live spot and trenching any live edge);
- Keep fireline widths as narrow as possible when they must be constructed;
- Avoid ground disturbance within known natural and cultural resource locations.
- Use soaker hose, sprinklers or foggers in mop-up; avoid boring and hydraulic action;
- Minimize tree cutting;
- All suppression actions would utilize the appropriate management response derived from the fire management objectives and developed in cooperation with the Calais Fire Department;
- Protect air and water quality by complying with the Clean Air Act, the Clean Water Act, and all other applicable federal, state, and local laws and requirements.

- In the rare case where fireline construction might take place, erosion control methods would be used on slopes exceeding 10%;

- All sites where improvements are made or obstructions removed would be rehabilitated to pre-fire conditions, to the extent practicable.

- Employee education and public outreach programs would emphasis actions and activities that would minimize the need for wildland fire suppression actions.

### *2.3.2 Air, Soil, and Water Quality (Including Floodplains)*

- The park would comply with the Clean Air Act, the Clean Water Act, and all other applicable federal, state, and local laws and requirements. Additionally:

    - The suppression response selected to manage a wildland fire would consider air quality standards.
    - Fire weather forecasts would be used to correlate prescribed fire research burn ignitions with periods of optimal combustion and smoke dispersal. Any smoke situation that arises and threatens any smoke-sensitive areas would entail immediate suppression action.
    - During fire suppression or prescribed fire research operations, water or Class A foam would be used in lieu of chemical fire retardants. Class A foam would not be used within 25 feet of any water body.
    - All sites where hazard fuel treatment work creates soil disturbance would be rehabilitated to pre-disturbance conditions, to the extent practicable. Hazard fuel treatment work may be restricted during periods of high ground moisture conditions.
    - Areas denuded of vegetation would be treated with standard erosion control techniques and reseeded with native grasses and forbs.

### *2.3.3 Property*

- Park infrastructure, any other development, and adjacent non-agency land would be protected to the greatest extent feasible and appropriate during all fire management activities.

### *2.3.4 Firefighter and Public Safety*

- Firefighter and public safety is the highest priority in every fire management activity. In light of this:
    - Only fully qualified wildland firefighters that meet their agency's (NPS, Maine Forest Service, Calais Fire Department, or other responding local fire department) wildland fire training and qualification standards for the assigned fire job would perform firefighting duties (unless assigned as trainees, in which case they would be closely supervised by an individual fully qualified for the given position).
    - No fire management operation would be initiated until all personnel involved have received a safety briefing describing known hazards and mitigating actions, current fire season conditions, and current and predicted fire weather and behavior.
    - Employee education and public outreach programs would emphasis actions and activities that increase firefighter and public safety.
    - The park superintendent or designee may, as a safety precaution, temporarily close all or part of the park to the visiting public.
    - Smoke on roadways would be monitored and traffic control provisions taken, in cooperation with the Maine Department of Transportation and local law enforcement agencies to ensure motorist safety during fire events at the park. The following procedures would be taken to compensate for reduced visibility when a paved road is affected by smoke (the incident commander or prescribed burn boss on a particular event would determine visibility levels):
        - Posting of "Smoke on Road" signs on either side of the affected area. Reducing the posted speed limit when visibility is strongly reduced and escorting vehicles as necessary.
        - Closing the road to traffic when visibility is severely reduced.

### *2.3.5 Cultural Resources*

- During all suppression activities, the appropriate management response and Minimum Impact Suppression Tactics (MIST) guidelines (see Section 2.3.1) would be incorporated to the greatest extent feasible.
- Written prescriptions for all hazard fuel treatments activities, including fuel reduction, boundary fire breaks and defensible space around structures would be developed by the

park's fire management staff. All prescriptions would be reviewed and approved by the park's cultural resource specialist prior to any treatment work around park structures.

## 2.4 How Alternatives Address Fire Management Goals

Table 2-1 provides a quick comparison of how the "No Action" Alternative and the "NPS Preferred Action" Alternative addresses the fire management goals set forth by personnel at Saint Croix Island International Historical Site.

Table 2-1 Fire Management Plan Goals Matrix

| **Goal: Protect Life and Property**<br>Wildland fire poses a threat to people and to the increasing number of homes and other structures being located in wildland environments, especially adjacent to the park boundary. This zone, where structures are intermingled with vegetation and where wildland fires can threaten to ignite those structures is known as the wildland/urban interface. | |
|---|---|
| ***"No Action" Alternative (Current Program):***<br>No FMP, Wildland Fire Suppression Only | ***The "NPS Preferred" Alternative:***<br>Approved Fire Management Plan that includes Cooperative Wildland Fire Suppression, Hazard Fuel Reduction Treatments, and Investigating the Future Use of Prescribed Fire |
| ■ All wildland fires in and around the park would be suppressed by local fire departments.<br>■ Assistance to eligible local fire departments through the Rural Fire Assistance Program would continue as funds are available. | ■ All wildland fires in and around the park would be suppressed by local fire departments using suppression tactics that minimize impacts to the ecological and cultural resources of the park.<br>■ Assistance to eligible local fire department through the Rural Fire Assistance Program would continue as funds are available.<br>■ Hazard fuel breaks would be created around the mainland portion of the park.<br>■ Defensible space would be maintained around all park structures while maintaining sensitivity to the historic setting of those structures and the cultural landscape.<br>■ Heavy concentrations of fine fuels in areas of high visitor use would be reduced or removed by manual/mechanical means |

| | |
|---|---|
| **Goal: Protect Human Health and Safety**<br>Preventing and fighting wildland fires can pose a significant risk to the health and safety of the public and park staff. | |
| ***"No Action" Alternative (Current Program):***<br>No FMP, Wildland Fire Suppression Only | ***The "NPS Preferred" Alternative:***<br>Approved Fire Management Plan that includes Cooperative Wildland Fire Suppression, Hazard Fuel Reduction Treatments, and Investigating the Future Use of Prescribed Fire |
| ■ Safety would continue to be the highest priority in all fire management operations.<br>■ The National Park Service would continue to cooperate and coordinate fire management activities with the local fire department and the Maine Forest Service. | ■ Same as the "No Action" Alternative, however safety and cooperation would be guided by a Fire Management Plan<br>■ Creating hazard fuel breaks along the mainland portion of the park would decrease the chance of fires spreading in to, or out of the park.<br>■ Heavy concentrations of fine fuels in areas of high visitor use would be reduced or removed by manual/mechanical means. |
| **Goal: Protect Cultural Resources**<br>Saint Croix Island International Historic Site contains significant cultural resources, including two National Register-listed houses, a historic boathouse, memorial tablet, archeological resources associated with Native American, French and American occupation, and important cultural landscape elements. | |
| ***"No Action" Alternative (Current Program):***<br>No FMP, Wildland Fire Suppression Only | ***The "NPS Preferred" Alternative:***<br>Approved Fire Management Plan that includes Cooperative Wildland Fire Suppression, Hazard Fuel Reduction Treatments, and Investigating the Future Use of Prescribed Fire |
| ■ No specific fire suppression strategies and tactics would be developed. | ■ Suppression tactics would be developed that would minimize impacts to cultural resources. These tactics would be communicated to cooperating agencies.<br>■ Creating hazard fuel breaks along the mainland portion of the park would decrease the chance of fires spreading into the park, which could damage or destroy the cultural resources of the park. These breaks would be placed in areas and along boundaries that would not compromise the integrity of cultural landscape elements.<br>■ Creating defensible space around park structures would decrease the chance of wildland fires spreading to those structures and damaging or destroying them.<br>■ Heavy concentrations of fine fuels in areas of high visitor use would be reduced or removed by manual/mechanical means. |

| **Goal: Protect Natural Resources**<br>The Park contains wetlands, vegetative communities and wildlife species common to the area. | |
|---|---|
| ***"No Action" Alternative (Current Program):***<br>No FMP, Wildland Fire Suppression Only | ***The" NPS Preferred" Alternative:***<br>Approved Fire Management Plan that includes Cooperative Wildland Fire Suppression, Hazard Fuel Reduction Treatments, and Investigating the Future Use of Prescribed Fire |
| ■ No specific fire suppression strategies and tactics would be developed. | ■ Suppression tactics would be developed that would minimize impacts to natural resources.<br>■ Plan would investigate if prescribed fire would have any beneficial applications on the island.<br>■ Heavy concentrations of fine fuels in areas of high visitor use would be reduced or removed by manual/mechanical means. |
| **Goal: Educate Park Staff and the Public** | |
| ***"No Action" Alternative (Current Program):***<br>No FMP, Wildland Fire Suppression Only | ***The "NPS Preferred" Alternative:***<br>Approved Fire Management Plan that includes Cooperative Wildland Fire Suppression, Hazard Fuel Reduction Treatments, and Investigating the Future Use of Prescribed Fire |
| ■ No specific strategies aimed at education on the scope and effects of wildland fire and prescribed fire. | ■ Educate employees and the public about the scope and effects of wildland fire and prescribed fire. |

## 2.5 COMPARISON OF ALTERNATIVES

Table 2-2 briefly summarizes the environmental effects of the various alternatives. It provides a quick comparison of how well the alternatives respond to the project need, objectives, important issues and impact topics. Chapter 3 discusses the environmental consequences of the proposed alternatives in detail.

Table 2-2 Comparisons of Alternatives

| | **Alternative 1 – "No Action" Alternative (Current Program): No FMP, Wildland Fire Suppression Only** | **Alternative 2 – The "NPS Preferred" Alternative: Approved Fire Management Plan that includes Cooperative Wildland Fire Suppression, Hazard Fuel Reduction Treatments, and Investigating the Future Use of Prescribed Fire.** |
|---|---|---|
| **Project Need** | | |
| Wildland Fire Suppression | Yes | Yes, wildland fires would be suppressed using minimum impact suppression tactics. |
| Hazard fuels Reduction | No | Yes |
| **Impact Topics** | | |
| Soils | Minor and localized soil compaction and/or disturbance along with minor short-term and localized soil erosion impacts resulting from fire suppression activities; beneficial long-term impacts from suppressing wildland fires. | Minor and localized soil compaction and/or disturbance along with minor short-term and localized soil erosion impacts resulting from hazard fuel reduction and fire suppression activities; mitigation measures would lessen impacts to soils; beneficial long-term impacts from suppressing wildland fires. |
| Water Resources (including wetlands and floodplains) | Minor, short-term, adverse, indirect impacts to water resources. | Minor, short-term, adverse, indirect impacts to water resources. |
| Vegetation (including T&E species) | Minor and short-term direct adverse impacts to vegetation from wildland fire suppression activities; areas where wildland fire suppression tactics resulted in soil disturbance would have a greater potential for invasive species. | Adverse minor and short-term direct impacts to vegetation from wildland fire suppression activities; areas where wildland fire suppression tactics or hazard fuels reduction activities resulted in soil disturbance would have a greater potential for invasive species, however mitigations would help minimize those impacts. |
| Wildlife (including T&E Species) | Minor short-term direct adverse impacts to wildlife, individual mortality of some species possible during suppression activities; minor adverse impacts to habitat due to suppression activities. | Minor short-term direct adverse impacts to wildlife, individual mortality of some species possible during suppression activities; minor impacts to habitat due to suppression activities, however mitigations would help minimize impacts to habitat; possible loss of nesting habitat from hazard fuels reduction activities. |
| Air Quality | Adverse air quality impacts from wildland fires reduced by suppression. | Adverse air quality impacts from wildland fires reduced by suppression and hazard fuel reduction. |
| Visitor Use and Experience | Minor and short-term adverse impacts during suppression activities to visitor use and experience (*e.g.* park or road closures, presence of fire crews in vista). | Minor and short-term adverse impacts during suppression activities to visitor use and experience (*e.g.* park or road closures, presence of work and fire crews in vista). |

Table 2-2 Comparisons of Alternatives

| | **Alternative 1 – "No Action" Alternative (Current Program): No FMP, Wildland Fire Suppression Only** | **Alternative 2 – The "NPS Preferred" Alternative: Approved Fire Management Plan that includes Cooperative Wildland Fire Suppression, Hazard Fuel Reduction Treatments, and Investigating the Future Use of Prescribed Fire.** |
|---|---|---|
| **Impact Topics** | | |
| Park Operations | Minor to moderate adverse impacts to park operations from a wildland fire occurring within the park. Wildland fire suppression activities would help reduce those impacts, however, suppression tactics could result in the short-term adverse minor impacts of temporarily closing the park to the public. | Minor to moderate adverse impacts to park operations from a wildland fire occurring within the park. Wildland fire suppression activities would help reduce those impacts, however, suppression tactics could result in the short-term adverse minor impacts of temporarily closing the park to the public. |
| Cultural Resources | No impacts or minor adverse impacts to known cultural landscapes; potential for impacts to un-recorded sites; beneficial effects from protecting cultural resources from wildland fire. | No impacts or minor adverse impacts to known cultural landscapes; potential for impacts to un-recorded sites; mitigations would lessen impacts from wildland fire suppression tactics to cultural resources; beneficial impacts from protecting cultural resources from wildland fire. |

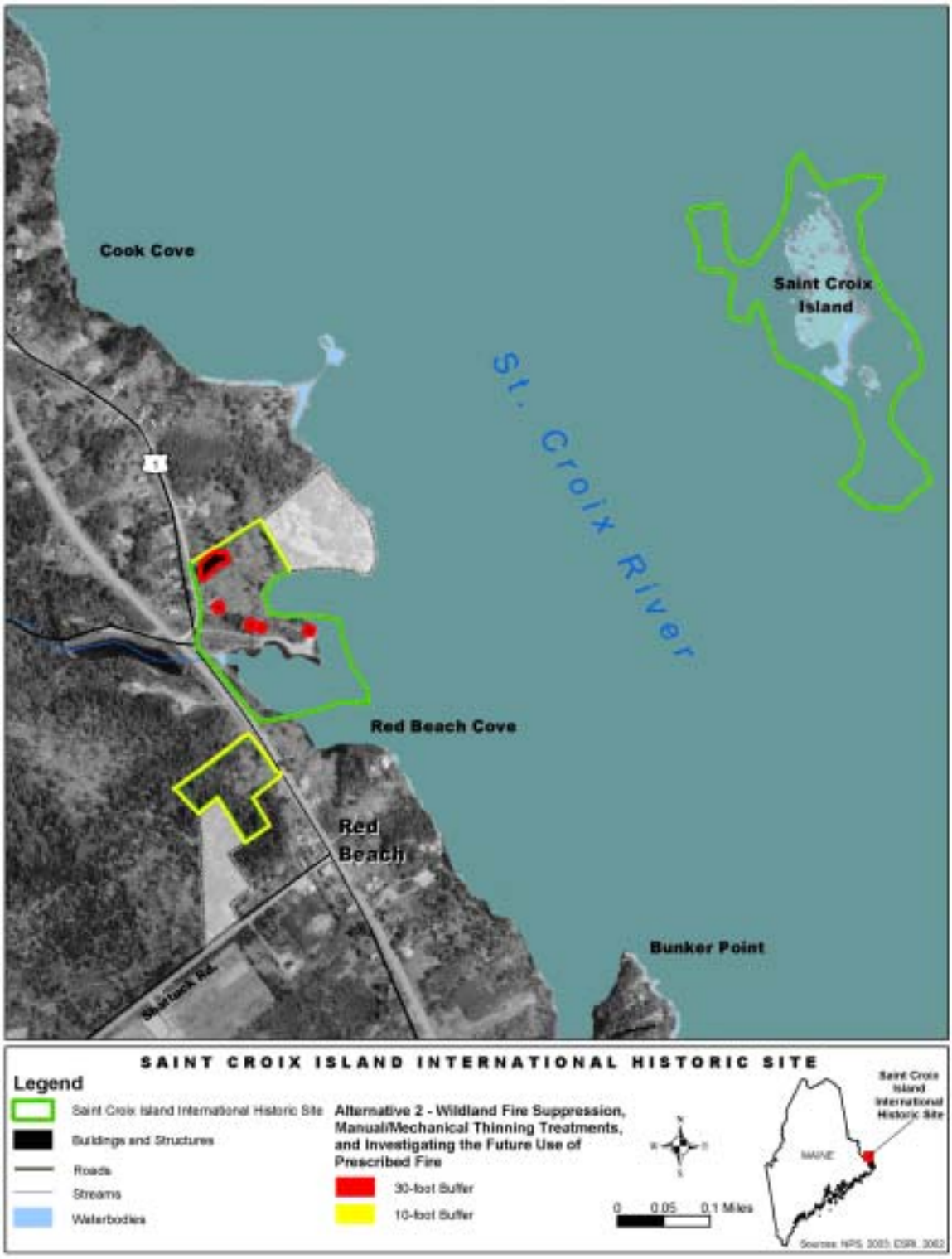


**Figure 2-1 Saint Croix Island International Historic Site Treatment Units "NPS Preferred" Alternative**

## 2.6 IMPACT DEFINITIONS

Table 2-3 depicts the impact definitions used in this Environmental Assessment. Major impact thresholds for the various key resources were determined in light of compliance with existing state and federal laws, and compliance with existing Saint Croix Island International Historic Site planning documents. There may be several distinct definitions for minor or major impacts to describe potential effects on a particular resource. For example, different definitions are provided to address different "soil" effects, such as erosion and compaction.

Table 2-3 Impact Definitions

| Key Resources | "Minor" Impact | "Moderate" Impact | "Major" Impact | Duration |
|---|---|---|---|---|
| Soils | The beneficial/adverse effects to soils would be detectable, but likely short-term. Damage to or loss of the litter/humus layers that causes slight localized increases in soil loss from erosion; effects to soil productivity or fertility would be small, as would the area affected; short-term and localized compaction of soils that does not prohibit re-vegetation; if mitigation were needed to offset adverse effects, it would be relatively simple to implement and likely successful. | The beneficial/adverse effects on soil productivity or fertility would be readily apparent, long term, and result in a change to the soil character over a relatively wide area; fire severe enough to cause a noticeable change in soil community; intermittent areas of surface sterilization of soils that may cause some long term loss of soil productivity that may alter a portion of the vegetation community; short-to long-term and localized compaction of soils that may prohibit some re-vegetation; mitigation measures would probably be necessary to offset adverse effects and would likely be successful. | The beneficial/adverse effects on soil productivity or fertility would be readily apparent, long-term, and substantially change the character of the soils over a large area in and out of the park. Damage to or loss of the litter/humus layers that would increase soil loss from erosion on a substantial portion of the burn area; fire severe enough to cause substantial damage to the soil community; substantial surface sterilization of soils that may cause long term loss of soil productivity and that may alter or destroy the vegetation community over most of the burned area; long-term and widespread soil compaction that affects a large number of acres and prohibits re-vegetation; mitigation measures to offset adverse effects would be needed, extensive, and their success could not be guaranteed. | **Short-Term** Recovers in less than 3 years<br><br>**Long-Term** Takes more than 3 years to recover |

Table 2-3 Impact Definitions

| Key Resources | "Minor" Impact | "Moderate" Impact | "Major" Impact | Duration |
|---|---|---|---|---|
| Water Resources (Including Wetlands and Floodplains) | Adverse changes in water quality would be measurable, although small, likely short-term, indirect, and localized; localized and indirect riparian impacts that do not substantively increase stream temperatures or affect stream habitats; no alteration of natural hydrology of wetlands; A U.S. Army Corps of Engineers 404 permit would not be required; no filling or disconnecting of the floodplain; short-term impacts that do not affect the functionality of the floodplain; no mitigation measure associated with water quality would be necessary. | Adverse changes in water quality would be measurable and long-term but would be relatively local, direct and/or indirect; localized and indirect riparian impacts that may slightly increase stream temperatures or affect stream habitats; alteration of natural hydrology of wetlands would be apparent such that an U.S. Army Corps of Engineers 404 permit could be required; alteration of the floodplain apparent; wetland or floodplain functions would not be affected in the long-term; mitigation measures associated with water quality or hydrology would be necessary and the measures would likely succeed. | Adverse changes in water quality would be readily measurable, would have substantial consequences, direct and/or indirect, and would be noticed on a regional scale; localized and indirect riparian impact that may substantively increase stream temperatures or affect stream habitats; effects to wetlands or floodplains would be observable over a relatively large area and would be long-term, and would require a U.S. Army Corps of Engineers 404 permit; filling or disconnecting of the floodplain; long-term impacts that affect the functionality of the floodplain; mitigation measures would be necessary and their success would not be guaranteed. | **Short-Term** Recovers in less than 1 year<br>**Long-Term** Takes more than 1 year to recover |
| Vegetation (including T&E species) | Beneficial/adverse short-term direct affects to some individual native plants and would also affect a relatively small portion of that species' population; short-term changes in plant species composition and/or structure, consistent with expected successional pathways of a given plant community from a natural disturbance event; increase in invasive species in limited locations; occasional death of a canopy tree; mitigation to offset adverse effects, including special measures to avoid affecting species of special concern, could be required and would be effective. | The beneficial/adverse effects on some individual native plants along with a sizeable segment of the species' population in the long-term and over a relatively large area; long-term changes in plant species composition and/or structure, consistent with expected successional pathways of a given plant community from a natural disturbance event; increases in invasive species do not jeopardize the overall native plant communities; increased death of canopy trees; mitigation to offset adverse effects could be extensive, but would likely be successful; some species of special concern could also be affected. | Considerable beneficial/adverse long-term direct effects on native plant populations, including species of special concern, and affect a relatively large area in and out of the park; violation of the Endangered Species Act of 1973; widespread increase in invasive species that jeopardizes native plant communities; mitigation measures to offset the adverse effects would be required, extensive, and success of the mitigation measures would not be guaranteed. | **Short-Term** Recovers in less than 3 years<br>**Long-Term** Takes more than 3 years to recover |

Table 2-3 Impact Definitions

| Key Resources | "Minor" Impact | "Moderate" Impact | "Major" Impact | Duration |
|---|---|---|---|---|
| Wildlife (including T&E species) | Temporary displacement of a few localized individuals or groups of animals; mortality of individuals of species not afforded special protection by state and/or federal law; mortality of individuals that would not impact population trends; mitigation measures, if needed to offset adverse effects, would be simple and successful. | Beneficial/adverse direct and indirect effects to wildlife would be readily detectable, long-term and localized, with consequences affecting the population level(s) of specie(s); mitigation measures, if needed to offset adverse effects, would be extensive and likely successful. | Beneficial/adverse direct and indirect effects to wildlife would be obvious, long-term, and would have substantial consequences to wildlife populations in the region; violation of the Endangered Species Act of 1973; mortality of a number of individuals that subsequently jeopardizes the viability of the resident population; extensive mitigation measures would be needed to offset any adverse effects and their success would not be guaranteed. | **Short-Term** Recovers in less than 1 year<br><br>**Long-Term** Takes more than 1 year to recover |
| Air Quality | Adverse changes in air quality would be measurable, although the changes would be small, short-term, and the effects would be localized; temporary and limited smoke exposure to sensitive resources; no air quality mitigation measures would be necessary. | Adverse changes in air quality would be measurable, would have consequences, although the effect would be relatively local; all air quality standards still met; short-term exposure to sensitive resources; air quality mitigation measures would be necessary and the measures would likely be successful. | Adverse changes in air quality would be measurable, would have substantial consequences, and be noticed regionally; violation of state and federal air quality standards; violation of Class II air quality standards; prolonged smoke exposure to sensitive receptors; air quality mitigation measures would be necessary and the success of the measures could not be guaranteed. | **Short-Term** Recovers in 7 days or less<br><br>**Long-Term** Takes more than 7 days to recover |

Table 2-3 Impact Definitions

| Key Resources | "Minor" Impact | "Moderate" Impact | "Major" Impact | Duration |
|---|---|---|---|---|
| Visitor Use & Experience | Temporary displacement of recreationists or closure of trails, and recreation areas during off-peak recreation use; temporary or short-term alteration of the vista, or temporary presence of equipment in localized area; smoke accumulation during off-peak recreation use. The visitor would be aware of the effects associated with the alternative, but the effects would be slight. | Beneficial/adverse direct changes in visitor use and/or experience would be readily apparent and likely long-term. The visitor would be aware of the effects associated with the alternative and would likely be able to express an opinion about the changes. | Permanent closure of trails and recreation areas; conflict with peak recreation use; long-term change in scenic integrity of the vista; substantive smoke accumulation during peak recreation use. The visitor would be aware of the effects associated with the alternative and would likely express a strong opinion about the changes. | **Short-Term** Occurs only during the treatment effect<br><br>**Long-Term** Occurs after the treatment effect |
| Cultural Resources | For archeological resources, the impact affects an archeological site(s) with modest data potential and no significant ties to a living community's cultural identity; temporary, non-adverse effects to registered cultural resource sites, eligible cultural resource sites, sites with an undetermined eligibility, and traditional cultural properties; no effect to the character defining features of a National Register of Historic Places eligible or listed structure, district, or cultural landscape | For archeological resources, the impact affects an archeological site(s) with high data potential and no significant ties to a living community's cultural identity; temporary adverse effects to registered cultural resource sites, eligible cultural resource sites, sites with an undetermined eligibility, and traditional cultural properties, but would not diminish the integrity of the cultural resource to the extent that its National Register eligibility is jeopardized | For archeological resources, the impact affects an archeological site(s) with exceptional data potential or that has significant ties to a living community's cultural identity; long-term adverse impacts to registered cultural resource sites, eligible cultural resource sites, sites with an undetermined eligibility, and traditional cultural properties that would diminish the integrity of the cultural resource to the extent that its National Register eligibility is jeopardized | **Short-Term** Treatment effects on the natural elements of a cultural landscape (e.g., three to five years until new vegetation returns)<br><br>**Long-Term** Because most cultural resources are non-renewable, any effects would be long term |

Table 2-3 Impact Definitions

| Key Resources | "Minor" Impact | "Moderate" Impact | "Major" Impact | Duration |
|---|---|---|---|---|
| Park Operations | The beneficial/adverse direct and indirect effects would be detectable and likely short-term, but would be of a magnitude that would not have an appreciable effect on park operations; short-term suspension of non-critical park operations; negligible impact to park buildings and structures; if mitigation were needed to offset adverse effects, it would be relatively simple and likely successful | The beneficial/adverse effects would be readily apparent, be long-term, and would result in a substantial change in park operations in a manner noticeable to staff and the public; long-term suspension of all park operations (1 to 2 days); detectable adverse impacts to park buildings and structures; mitigation measures would probably be necessary to offset adverse effects and would likely be successful | The beneficial/adverse effects would be readily apparent, long-term, would result in a substantial change in park operations in a manner noticeable to staff and the public and be markedly different from existing operations; prolonged suspension of all park operations; substantial adverse impacts to park buildings and structures; mitigation measures to offset adverse effects would be needed, would be extensive, and their success could not be guaranteed | **Short-Term** Effects lasting for the duration of the treatment action<br><br>**Long-Term** Effects lasting longer than the duration of the treatment action. |

# Chapter 3 – Environmental Analysis

This chapter summarizes the existing environmental conditions and the probable environmental consequences (effects) of implementing the Action and No-Action alternatives. This chapter also provides the scientific and analytical basis for comparing the alternatives. The probable environmental effects are quantified where possible; where not possible, qualitative descriptions are provided. Descriptions of the Affected Environments for the various impact topics were taken from the park's 1998 General Management Plan.

## 3.1 SOILS

### *3.1.1 Affected Environment*

Saint Croix Island has a thin covering of soil overlying bedrock at the north end of the island while the south end has a deeper soil cover. The soil on the island consists of a fine-grained, well-drained sandy loam, suitable for crop production but susceptible to erosion. On 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 (NPS, 1998). 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.

The bluffs on the southern end of Saint Croix Island are eroding, as are Wrights Nubble, Chapel Nubble, and areas along the shoreline of the mainland section of the park. Rates of erosion vary around the island, and are influenced by a variety of factors; including groundwater and surface runoff, direct wave erosion, and human activities (NPS, 1998).

### *3.1.2 Environmental Consequences*

Soil impacts were qualitatively assessed using professional judgment based on investigations of soil characteristics and information from the park's 1998 General Management Plan.

3.1.2.1 Alternative 1 (No Action)

Proposed activities with the potential to impact soils include activities associated with wildland fire suppression, such as using off-road vehicles, digging firelines, and using large amounts of water.

Minor and short-term adverse impacts would result from actions proposed under this alternative. Minor and localized soil compaction and/or disturbance would occur if fire suppression vehicles drove off-road and onto soft ground to combat wildland fire. Because the majority of the mainland portion of the park is close to roads, impacts resulting from a vehicle driving off-road would occur in rare instances. Digging firelines, if deemed necessary, would result in minor, localized soil disturbance and could lead to increased erosion, especially in steeply sloped areas

within the park. Lastly, using large amounts of water to extinguish fires could result in minor and localized erosion and soil disturbance.

In the event of a wildland fire, if soils became denuded of vegetation, they would be potentially more vulnerable to erosion. This would especially be of concern for those soils on steep slopes, including those on Saint Croix Island. Suppressing wildland fires on both the mainland and island would have beneficial long-term impacts to the soil by protecting the vegetation and decreasing their potential to erode. Also, active suppression would protect the soil quality of the park by not allowing a wildland fire to burn excessively hot, which could destroy the organic materials in the soil.

3.1.2.2 Alternative 2 (NPS Preferred Alternative)

Proposed activities with the potential to impact soils include suppressing wildland fires and creating fuel breaks around the mainland portions of the park's boundaries and fuel breaks around park structures.

Direct, short-term, adverse impacts resulting from wildland fire suppression would be similar to those described in the "No Action" Alternative; however, under this alternative, mitigations would be established that minimize those impacts. To minimize potential soil impacts from suppression activities, vehicles would be restricted to roads whenever and wherever possible. Existing natural fuel breaks and human-made barriers (e.g. streams, roads), wet line, or cold trailing the fire edge in lieu of fireline construction would be used whenever possible. If building firelines were necessary, they would be located outside of highly erosive areas, steep slopes, and other sensitive areas. To avoid boring and hydraulic action of fire hoses, soaker hose, sprinklers or foggers in mop-up would be utilized. Following fire suppression activities, firelines would be re-contoured, water bars would be installed, and affected areas might be seeded with native plant species.

A limited amount of hazard fuel reduction work (e.g. chainsaws and mowers) is proposed at the park to create fuel breaks around park boundary and around park structures and to remove concentrations of hazard fuels. However, restricting work based on ground moisture conditions would mitigate any disturbance or excessive compaction that may be caused by equipment.

In the event of soils being denuded of vegetation following a wildland fire, measures would be used to minimize the adverse impacts of erosion. Denuded areas would be treated with standard erosion control techniques and reseeded or planted with native grasses and forbs.

### *3.1.3 Conclusion*

Both alternatives would have short-term, direct, adverse impacts on soils. However, with the implementation of mitigation measures from Alternative 2, impacts would be less than those resulting from the "No Action" Alternative.

The implementation of either of the alternatives would not impair soil resources or values that are (1) necessary to fulfill specific purposes identified in the enabling legislation of the park, (2)

key to the natural or cultural integrity of the park or opportunities for enjoyment of the park, and (3) identified as a goal in the park's general management plan or other National Park Service planning documents.

## 3.2 WATER RESOURCES (INCLUDING WETLANDS AND FLOODPLAINS)

### *3.2.1 Affected Environment*

Saint Croix Island International Historic Site is located in the salt water tidal zone of the Saint Croix River. The range between mean high and mean low water at the park is 19.6 feet, with an extreme range of 28 feet. The tidal current in the estuary is strong on both outgoing and incoming tides. A large portion of the rocky ledges, gravel beaches, and mudflats of the historic site are covered and exposed twice daily by tidal salt water (NPS, 1998).

The primary water resource of the park is the considerable extent of shoreline within 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 Stephen, and Saint Andrews. Water quality in the river below the Calais-Saint Stephen area has been impacted by these industries, along with runoff from residential properties and non-point agricultural pollution, and has resulted in high fecal coliform levels (Cronan, Kelly, Piampiano, *et al*, 1997). The Saint Croix River is classified as a Class SC river in the tidal estuarine waters. Class SC is the third highest classification for estuarine and marine waters in Maine (DEP, 1999). The designated uses for Class SC waters include recreation in and on the water; fishing; aquaculture; propagation and restricted harvesting of shellfish; industrial process and cooling water supply; hydroelectric power generation; navigation; and habitat for fish and other marine and estuarine life (DEP, 1999).

According to the U.S. Fish & Wildlife Service's National Wetlands Inventory, Saint Croix Island is ringed by intertidal wetlands of three types: rocky shore, beach/bar, and mudflat. The mainland shore parcel contains two types of intertidal wetlands: rocky shore and mudflat (NPS, 1999). Most of the mainland portion of the project area, including the location of 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.

### *3.2.2 Environmental Consequences*

Water resource impacts were qualitatively assessed using professional judgment based on investigations of water resources, literature reviews, and information from the Park's 1998 General Management Plan.

3.2.2.1 Alternative 1 (No Action)

Proposed activities with the potential to impact water resources include activities associated with wildland fire suppression such as building firelines and removing vegetation.

Adverse indirect impacts to the water resources of Saint Croix Island International Historic Site resulting from the activities proposed under this alternative would be short-term and minor. The principal impacts to water quality resulting from wildland fire suppression stem from erosion-induced suspended sediments, turbidity, and sedimentation. In addition, intense fires may introduce large quantities of organic material (ash) into aquatic systems, blown in by wind or transported by runoff.

Increased soil erosion could result from loss of vegetative cover during a wildland fire as well as from fire crews engaged in suppression activities, especially on the steep slopes of Saint Croix Island. This could lead to turbidity and sedimentation of surface water resources in the park. Turbidity and sedimentation can alter the hydrologic regime of surface waters and adversely affect aquatic habitats, invertebrates and fish. If any sediment was delivered into the river as a result of suppression activities, it would be quickly diluted and would have only short-term negligible measurable indirect impacts to water quality.

In addition, this alternative is unlikely to lead to any substantial change in the flow of streams draining the park; that is, it would not result in large pulses of water delivered to these streams during storm events from somewhat greater runoff on burned or disturbed ground surfaces. Moreover, these activities would not involve the filling or disconnection of the floodplain, and would not affect the functionality of the floodplain. There would be no impacts to any of the wetlands found on either the mainland or island from wildland fire suppression activities.

3.2.2.2 Alternative 2 (NPS Preferred Alternative)

Proposed activities with the potential to impact water resources include activities associated with wildland fire suppression such as building firelines, removing vegetation and fuels, and creating hazard fuel breaks around the park's boundary and park structures. General water resources impacts under this Alternative, with regards to fire suppression activities would be similar to those described under the "No Action" Alternative. However, in light of the mitigation measures employed during fire management activities (*e.g.* no fireline construction in highly sloped areas; no Class A foam use within 25 feet of surface water resources), there would be little, if any, direct impacts on surface water resources of the park.

There also would be no direct impacts from hazard fuels reduction activities to the water resources at Saint Croix Island International Historic Site. As discussed in section 3.1.2.2 impacts to soils would be minimal and would not result in significant erosion or runoff. Moreover, these activities would not affect the functionality of the floodplain and wetland present at the park.

### 3.2.3 Conclusion

Adverse indirect impacts to water quality resulting from the two alternatives would be similar in nature, short-term and negligible. The implementation of any of the alternatives would not impair water resources or values that are (1) necessary to fulfill specific purposes identified in the enabling legislation of the park, (2) key to the natural or cultural integrity of the park or opportunities for enjoyment of the park, and (3) identified as a goal in the park's general management plan or other National Park Service planning documents.

## 3.3 VEGETATION

### 3.3.1 Affected Environment

As noted in the *Natural Resource Inventory* (Cronan, Kelly, Piampiano, *et al*, 1997), Saint Croix Island is almost entirely vegetated. Perennial grasses and forbs dominate the interior upland plateau of the island; this area is maintained by mowing. The grassland is dotted with various older specimen trees, such as striped maple (*Acer pensylvanicum)*, and a group of red spruce (*Picea rubens*). The perimeter of the plateau contains stands dominated by spruce fir and those species found in coniferous bogs, which include American beech (*Fagus grandifolia*), white cedar (*Thuja occidentalis*), birch (*Betula papyrifera*), 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 includes open park-like woodland cover vegetation typical of successional plant communities along the coast represented by white spruce (*Picea glauca*), balsam fir (*Abies balsamea*), white pine (*Pinus strobus*), red oak (*Quercus rubra*), paper birch, wild rose, and quaking aspen (*Populus tremuloides*). Introduced grasses with wild rose, raspberry, and silverrod (*Solidago bicolor*) along the edge dominate the lawn areas. Shrubs 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 with old apple trees (*Malus sylvestris))* 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 historical fire frequency in the general vicinity of the mainland portion of Saint Croix is once every 100 to 200 years, and can burn with stand replacing severity (Schmidt, *et al*, 2002). A stand-replacement fire regime applies to fires that kill aboveground parts of the dominant vegetation and changes the aboveground structure substantially. Approximately 80 percent or more of the aboveground dominant vegetation either is consumed or dies as a result of fires (USDA, 2000c). Major vegetation types experiencing stand-replacing fire regimes include stands dominated by spruce and balsam fir along with coniferous bogs. All of these vegetative types are characterized by stand-replacement fire regimes having different fire cycles that vary according to climate and topography. Stand-replacement fires are the most common type of fires in northern forests (USDA, 2000c).

### *3.3.2 Environmental Consequences*

Vegetation impacts were qualitatively assessed using professional judgment based on the presence/absence of plant species, literature reviews, and by determining the number of acres impacted.

3.3.2.1 Alternative 1 (No Action)

Proposed activities with the potential to directly impact vegetation include wildland fire suppression activities and excluding wildland fire. Fire suppression activities could result in the mortality of plants and trees in the areas where wildland fire suppression is taking place. Digging firelines, removing trees, and setting backfires are all examples of wildland fire suppression tactics that could cause mortality of plant species. These impacts are expected to be minor and temporary, because the loss of individual members of a given plant species would not jeopardize the viability of the populations on and adjacent to the park. Also they would be limited to the area of treatment only. Any fire suppression activities that resulted in soil disturbance (e.g. building firelines) would have minor indirect impacts by making those areas more susceptible to the spread of invasive exotic plant species that thrive in open disturbed areas. Fire suppression activities however, would protect "high value" vegetation such as the historic apple trees whenever possible.

Excluding wildland fire would not be expected to have any impacts within the areas of the park. This is because the vegetative communities found at the park are not considered fire dependant.

3.3.2.2 Alternative 2 (NPS Preferred Alternative)

Proposed activities with the potential to directly impact vegetation include building firelines, and hazard fuels reduction treatments.

General vegetation impacts from hazard fuel reduction and wildland fire suppression activities would be similar to those described under the "No Action" Alternative. However, under this alternative, mitigations would be put into place that would minimize the chance of spreading invasive exotic species in the event that fire management activities resulted in ground disturbance. For example, any areas disturbed by either wildland fire suppression, or hazard fuels reduction treatments may be seeded or planted with native grasses and would be monitored to detect against such infestations. Creating approved fuel breaks around the park's structures would not greatly impact the vegetation of the park. Clearing and maintaining a fuel break of at least 30 feet around each structure would keep that cleared area in grasses and forbs. In addition, creating fuel breaks around the mainland portion of the park would help protect vegetation from wildland fires originating from outside the park's boundaries.

### *3.3.3 Conclusion*

Both alternatives would result in minor, temporary and localized adverse impacts to native vegetation found within the park by wildland fire suppression and, in the case of the Alternative 2,

through reducing hazard fuels, creating fire breaks and defensible space around park structures. However, in the case of Alternative 2, those impacts would be lessened through mitigating actions.

Both alternatives would have minor, long-term beneficial impacts on "high value" vegetation such as the historic apple trees, by protecting them from wildland fire. With regards to the “NPS Preferred” Alternative, additional benefits would be accrued by creating fuel breaks, which would help prevent wildland fires occurring outside the park from entering the park and impacting its vegetation.

Implementing either of the proposed alternatives would not impair vegetation resources or values that are (1) necessary to fulfill specific purposes identified in the enabling legislation of the park, (2) key to the natural or cultural integrity of the park or opportunities for enjoyment of the park, and (3) identified as a goal in the park’s general management plan or other National Park Service planning documents.

## 3.4 WILDLIFE

### *3.4.1 Affected Environment*

From 1995 to 1997 natural resources inventories were conducted at Saint Croix Island International Historic Site. During the inventory harbor seals (*Phoca vitulina*), herring gulls (*Larus argentatus*), cormorants (*Phalacrocorax spp.*), spotted sandpipers (*Actitis macularia*), common loon (*Gavia immer*), song sparrow (*Melospiza melodia*), white-throated sparrow (*Zonotrichia albicollis*), cliff swallows (*Petrochelidon pyrrhonota)*, red breasted mergansers (*Mergus serrator*), osprey (*Pandion haliaetus)*, and eider ducks *(Somateria mollisima)* were all observed on and around the island. The Natural Resource Inventory did not record any amphibians or reptiles observed on the island (Cronan, Kelly, Piampiano, *et al*, 1997).

The mainland portion of the park is made up of open, park-like woodland on a narrow peninsula. The area near the shore attracts common species that would typically occupy a neighborhood environment. There is a small forested area 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. Small mammals found in the grassy areas of the mainland observation area include deer mice (*Peromyscus maniculatu*s) and red squirrels (*Tamiascuiurus hudsonicus*). The trees along the shore can provide perches for species such as osprey and Eastern crow (*Corvus brachyrhyncos*) that have been reported to use the surrounding areas. Common canopy-nesting birds include black-capped chickadee (*Parus atricapillus*) and wood thrush (*Hylocichla fuscescens*) (Cronan, Kelly, Piampiano, *et al*, 1997). National Park Service staff has also noted kingfishers (*Ceryle alcyon)*, black ducks (*Anas rubripes)*, mallard ducks (*Anas platyrynchos*), great blue herons (*Ardea herodias*), and bald eagles (*Hallaeetus leucocephalus*). Ospreys have nested on Wrights and Chapel nubbles, and cliff swallows inhabit the island’s sandy cliffs. In the waters surrounding the island, there is a well developed community of barnacles (*Semibalanus balanoides),* blue mussels (*Mytilus edulis),* common periwinkles (*Littorina littorea*), smooth periwinkles (*Nucella obtusata*), and dogwinkles (*Nucella lapillus).*

American bald eagles, a federally listed (threatened) species under the Endangered Species Act, are resident and nest along 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 park 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 (NPS, 1999).

### *3.4.2 Environmental Consequences*

The effects of the alternatives on wildlife were qualitatively assessed using professional judgment based on literature reviews, general knowledge, and research specific to the area.

3.4.2.1 Alternative 1 (No Action)

Proposed activities with the potential to affect wildlife include activities associated with wildland fire suppression such as building firelines and removing vegetation.

General impacts resulting from activities proposed under this alternative would be minor, adverse, and short-term. All wildland fire suppression activities could result in the short-term displacement of wildlife or individual mortality of wildlife species. The loss of individuals of a non-threatened or endangered species, however, would only result in short-term minor adverse impacts as they would not jeopardize the viability of the populations on and adjacent to the park. After the suppression event, populations would rebound quickly.

There would be no adverse impacts to bald eagles from fire management activities. As stated in the National Park System's 2001 Management Policies, if a federally or state listed species (bald eagle) were to be documented within the park boundaries, active management programs would be undertaken to inventory, monitor, restore, and maintain the listed species' habitats, control detrimental non-native species, control detrimental visitor access, and re-establish extirpated populations as necessary to maintain the species and habitats upon which they depend. The park would also manage designated critical habitat, essential habitat, and recovery areas to maintain and enhance their value for the recovery of threatened and endangered species. Measures taken to protect those species, or their required habitat, would supersede any management activities outlined in the FMP in the event any of those management activities would negatively impact the listed species.

In the event that the bald eagle would establish a nest in the area, wildland fire suppression would have beneficial impacts. In the event that a nesting tree was established, efforts would be taken to protect that tree in the event of a wildland fire. There could be some minor short-term adverse impacts resulting from wildland fire suppression activities from increased activity in the general vicinity of the tree, but this would be short-term because fire personnel would only be in the area of the tree as long as necessary, and vacate the area as quickly as possible to minimize the disturbance to the eagles.

Suppression activities would have no adverse impacts to aquatic species in the Saint Croix River since these activities would not result in significant amounts of soil erosion and sediment delivery to the Saint Croix River, which could impact aquatic habitats.

3.4.2.2 Alternative 2 (NPS Preferred Alternative)

Proposed activities with the potential to impact wildlife include building fireline, creating and/or maintaining fire breaks and defensible space around park structures, and reducing hazard fuels. Defensible spaces are areas around structures that are kept free of flammable vegetation, which allows firefighters a safe working area within which to attack an oncoming wildland fire.

General wildlife impacts with regards to wildland fire suppression would be similar to those described in the "No Action" Alternative. General adverse impacts to wildlife during these activities would be minor and would include the short-term loss of some habitat and isolated mortality of individuals. There could be some loss of migratory bird habitat as a result of hazard fuel reduction of woody shrubs and trees; however, the limited amount of hazard fuel reduction to be conducted would not adversely affect the viability of nesting populations on the park, and would have only negligible adverse impacts.

Wildland fire suppression would have no affect on any federally listed threatened or endangered species found within the park. On June 7, 2004, informal consultation was initiated with Mark McCollough, Endangered Species Biologist at the Maine Field Office of the U.S. Fish & Wildlife Service (USFWS) regarding any federally listed species that could occur at Saint Croix Island International Historic Site, and the potential impacts the proposed actions could have on those species. Mr. McCollough indicated that there were currently no federally-listed species at the park, and that the USFWS had no concerns regarding adverse effects on federally-listed species from any of the proposed fire management activities. However, he indicated that if an eagle or other listed species were to become established, the National Park Service should take action to protect individuals and habitat from adverse impacts.

If a federally listed species were to become re-established at the park, as detailed in section 2.3, (Mitigation and Monitoring), whenever possible, fire suppression activities would avoid ground disturbance within known natural sites (*e.g.* critical habitat, known areas where T&E species exist, known denning sites). When a wildland fire suppression activity (e.g. fireline construction) is not discretionary and deemed necessary to protect human life or property in or around these resource locations, it would involve as little ground disturbance as possible and be located as far outside of resource boundaries as possible. In addition, in the event of a wildland fire, the U.S. Fish & Wildlife Service would be consulted either during, or shortly after the wildland fire event to ensure that everything practical be done to protect the species and its habitat.

### *3.4.3 Conclusion*

Wildland fire suppression activities described in both alternatives and the hazard fuel treatment activities described in the NPS Preferred Alternative would temporarily displace some wildlife species; have some minor adverse impacts to migratory bird habitat from hazard fuel reduction of trees and shrubs, and increase the possibility of individual mortality of some species.

The implementation of any of the alternatives would not impair wildlife resources or values that are (1) necessary to fulfill specific purposes identified in the enabling legislation of the park, (2) key to the natural or cultural integrity of the park or opportunities for enjoyment of the park, and (3) identified as a goal in the park's general management plan or other National Park Service planning documents.

## 3.5 AIR QUALITY

### *3.5.1 Affected Environment*

Under the terms of the 1990 Clean Air Act amendments, the park is designated as a Class II quality area. By definition, Class II areas of the country are protected under the Clean Air Act, but identified for somewhat less stringent protection from air pollution damage than Class I areas. The primary means by which the protection and enhancement of air quality is accomplished is through implementation of National Ambient Air Quality Standards (NAAQS). These standards address six pollutants known to harm human health including ozone, carbon monoxide, particulate matter, sulfur dioxide, lead, and nitrogen oxides (USDA, 2000a).

Significant regional sources of emissions within 60 miles of Saint Croix Island International Historic Site include a paper mill in Woodland, Maine, a flakeboard mill at St. Stephen, and a fossil fuel power plant at Coleson Cove, New Brunswick. The three Canadian emission facilities are generally downwind of the park, but the Woodland mill is positioned to send emissions toward the park on any westerly wind (NPS, 1998).

### *3.5.2 Environmental Consequences*

Air quality impacts were qualitatively assessed using literature reviews and professional judgment based on consideration of fuel levels and types, size of area that could burn, and knowledge of air chemistry.

#### 3.5.2.1 Alternative 1 (No Action)

Under this alternative, adverse air quality impacts resulting from wildland fires would be minor and short-term and be reduced by suppression efforts. Normally, smoke impacts to the park and surrounding communities would be minimized, as most fires would be kept relatively small in size. In the event that a wildland fire escape initial attack and gain size in acreage, adverse impacts to air quality would increase. Air pollution increases would normally last only a few days, or until the fire is contained and mop-up begins.

Minor, short-term impacts could result from smoke from backfires set as part of wildland fire suppression could also reduce visibility in the park. A backfire is a fire set to consume the fuel in the path of a wildland fire. The extent of impact to visibility would depend on the fire size, duration and location. Most small fires would produce some visible smoke in the general area where the fire was located, but would have short-term minor adverse impacts on overall

visibility. Larger fires could impact the views of larger area downwind by creating haze, which could potentially obscure or partially obscure some views.

3.5.2.2 Alternative 2 (NPS Preferred Alternative)

Impacts to air quality resulting from fire suppression and prescribed fire research burns under this alternative would be the same as described in the "No Action" Alternative.

### *3.5.3 Conclusion*

Both alternatives would have only short-term minor adverse impacts on air quality. The implementation of any of the alternatives would not impair wildlife resources or values that are (1) necessary to fulfill specific purposes identified in the enabling legislation of the park, (2) key to the natural or cultural integrity of the park or opportunities for enjoyment of the park, and (3) identified as a goal in the park's general management plan or other National Park Service planning documents.

## 3.6 VISITOR USE AND EXPERIENCE

### *3.6.1 Affected Environment*

As no formal visitor survey has been conducted for Saint Croix Island International Historic Site, estimates using traffic counters were made for the purposes of the park's 1998 General Management Plan. It was estimated that as many as 12,000 to 15,000 people visit the park per year. It was noted that visitors arrive from throughout the United States and Canada, but local residents also use the park for picnicking and relaxing and that July and August are the peak visitation months. It was estimated that the annual visitation to Saint Croix Island itself was about 10 percent of the mainland visitation. Visitors access the island via private boat or kayak for picnicking and sunbathing during the summer months primarily on weekends. Visitors also use the park for bird watching, boating and viewing wildlife.

On the mainland, the National Park Service provides the public with a self-guided tour. The tour provides a brief history of Saint Croix Island International Historic Site. It is made up of an interpretive trail with panels that describe the events of 1604-05, and sculptures. Under the mainland trail shelter that overlooks the river and the island, there is a scale model that depicts the 1604-1605 French settlement as shown in Samuel Champlain's drawings. In addition, the park has an outreach program that includes a distance learning program with over 200 schools in Maine and Canada and an interpretive ranger at the park. Other visitor services on the mainland include several picnic tables, a boat ramp, and a single vault toilet (NPS, 1999).

### *3.6.2 Environmental Consequences*

Impacts to visitor use and experience were qualitatively assessed using professional experience in light of the intensity and duration of fire management activities. Visual resource impacts in this environmental assessment were assessed in terms of scenic integrity, visual wholeness, and unity of the landscape.

3.6.2.1 Alternative 1 (No Action)

There would be some short-term reduction in scenic integrity and visitor use and experience during and immediately following wildland fire suppression activities from the presence of engines and fire crews. Short-term reduction in scenic integrity, however, would be minor because fire management activities would likely involve only short-term presence of vehicles and people.

In addition, during a wildland fire or the setting of a backfire during suppression activities, smoke could obscure views of the island. This would be a short-term minor adverse impact (matter of hours or days), as fires were suppressed and the smoke cleared.

Following a wildland fire, visual scars may be noticeable from the firelines that were constructed to contain the fire. Areas that were burned would be visible to the public after suppression, but the area would generally be small in size. This could negatively affect the view for some visitors who may dislike the sight of burned vegetation. This minor impact would be short-term, as the vegetation would begin to return within a year, erasing the visual impacts of the fire.

3.6.2.2 Alternative 2 (NPS Preferred Alternative)

Under Alternative 2, adverse impacts to visitor use and experience would be short-term and minor, and would be similar to those described under the "No Action" Alternative with regards to wildland fire suppression. However, following a wildland fire, the minor short-term visual impacts from firelines would be lessened through mitigation measures. Natural firelines (*e.g.* roads, trails, and streams) would be used whenever possible, and if constructing a fireline were deemed necessary, it would be kept as narrow as possible, and rehabilitated by regrading and replanting after the wildland fire event had occurred.

Hazard fuels reduction activities would result in the short-term minor adverse impact to the scenic integrity of the park from the presence of work crews and equipment within the park, and the look of newly cut vegetation. These impacts would be short-term and minor as the presence of work crews and equipment would only be there while working, and the look of the newly cut vegetation would be erased in a matter of days or weeks as the vegetation rebounds and new vegetation returns.

### *3.6.3 Conclusion*

Both alternatives would have only short-term minor adverse impacts on visitor use and experience resulting from wildland fire suppression activities. However, under Alternative 2, these impacts would be lessened through mitigation measures aimed at returning areas where firelines were constructed back to their original pre-fire condition. Also, hazard fuels reduction activities proposed in Alternative 2 would have short-term, minor, adverse impacts to the scenic integrity of the park.

# 3.7 PARK OPERATIONS

## *3.7.1 Affected Environment*

Due the park's small size (approximately 45 acres) the Superintendent of Acadia National Park administers all aspects of management and protection at Saint Croix Island International Historic Site, including programs, staffing, facilities, and relationships with groups, agencies, and the general public. Currently, personnel at Saint Croix Island International Historic Site are limited to one maintenance employee and one interpretive employee. Whenever needed, staff from Acadia National Park provides support. Seasonal maintenance includes mowing the grassy areas on the island and mainland, cleaning the restroom on the mainland, maintaining park structures, and removing trash. Interpretive operations include off-site educational programs and seasonal on-site interpretation of the mainland portion of the park.

## *3.7.2 Environmental Consequences*

Impacts to park operations were qualitatively assessed using professional judgment based on consideration of the overall size of the park, National Park Service personnel, and park structures.

3.7.2.1 Alternative 1 (No Action)

Fires occasionally disrupt routine park operations, particularly when developed areas and other values are threatened from wildland fires. In the event of a wildland fire, the park could see short-term minor to moderate adverse impacts to park operations resulting from demands relating to traffic control and law enforcement, possible emergency medical services, fire information services, transporting supplies and personnel, closing the park to the public, and follow up maintenance work. However, actively suppressing any wildland fire that may occur would help reduce those impacts.

3.7.2.2 Alternative 2 (NPS Preferred Alternative)

General short-term adverse impacts to park operations would be similar to those described in the Alternative 1. Additionally, more staff time and more funding would be required to develop cooperative agreements, conduct hazard fuel treatment activities, present fire education and prevention programs and implement mitigation measures if a fire should occur.

## *3.7.3 Conclusion*

Both Alternatives would have similar minor to moderate adverse short-term effects on park operations resulting from wildland fires. However, by actively suppressing any wildland fires that may occur in the park, impacts to park operations from wildland fires would be minimized.

# 3.8 CULTURAL RESOURCES

Section 106 of the National Historic Preservation Act requires federal agencies to consider the effects of their proposals on historic properties, and to provide state historic preservation officers, tribal historic preservation officers, and, as necessary, the Advisory Council on Historic Preservation a reasonable opportunity to review and comment on these actions.

## *3.8.1 Affected Environment*

Before its designation as an international historic site, Saint Croix Island National Monument was automatically listed on the National Register of Historic Places when the Historic Preservation Act of October 15, 1966, was enacted (16 USC 470, et seq.). However, National Register of Historic Places documentation was not prepared and no individual structures were mentioned as contributing to the significance of the park. In recent years, the National Park Service has been working in consultation with the Maine Historic Preservation Commission (SHPO), to determine which resources are eligible for the National Register.

Cultural Resources at the park are divided between Saint Croix Island and the mainland. Saint Croix Island contains an 1885 boat house, a 1904 memorial tablet, and a small modern shed houses maintenance equipment. Archeological resources of the island include features associated with the 1604 French settlement, traces of Native American occupation, and remnants of 19th century farming and coastal light station activities.

The mainland portion of the park contains the McGlashan-Nickerson house and the Pettegrove-Livingstone house and garage, both of which are on the National Historic Register. Landscape features associated with the McGlashan house include an apple orchard and garden. In addition, the Pettegrove-Livingstone property is also considered historically significant as a Downingesque landscape. The Lane-Robb house is ineligible to be on the Register individually but may contribute to a historic district nomination. There are also possible archeological remains of activities associated with 19th century granite and plaster industries, and a Native American site. Both the island and the mainland are of enduring cultural significance to the Wabanaki people, in particular, the Passamaquoddy.

## *3.8.2 Environmental Consequences*

Cultural resource impacts were qualitatively assessed through a presence/absence determination of significant cultural resources and mitigation measures to be employed during wildland fire suppression and hazard fuel reduction activities.

3.8.2.1 Alternative 1 (No Action)

Proposed activities with the potential to impact known and unknown cultural resources include both wildland fires and wildland fire suppression activities. When dealing with wildland fires there is always a degree of uncertainty when trying to predict the potential impacts on cultural

resources. The effects of fire on cultural resources are still not well understood or documented. For example, post-fire observations are often unable to distinguish between damage to archaeological resources caused by the fire itself from damage that was pre-existing. Thus, the following discussion of potential impacts of fire and fire management on cultural resources is of necessity general and somewhat speculative.

Both wildland fires and wildland fire suppression could adversely impact landscapes, structures, sites, or the ethnographic value to tribal members. Fires themselves can and often do destroy historic structures or properties, especially those constructed of wood or other flammable material.

The vulnerability of subsurface archaeological resources and artifacts to fire depends not only on the nature of the materials themselves but also on the duration of the fire, moisture content, fuel loads, and intensity of the fire. Hotter surface fires penetrate more deeply into the subsurface and can potentially cause more damage. Glass bottles can be cracked or broken for example. On the other hand, ceramics or objects carved or chipped from stone are likely to be more resistant to fire and heat (N.W.C.G., 2001). In addition, clearing firelines associated with fire suppression can damage unknown subsurface cultural and archaeological resources by exposing, crushing, or removing them.

In the event a wildland fire was to occur on Saint Croix Island and denude it of vegetation, because of the steepness of the island and its erodible nature, buried artifacts and gravesites could be lost. There are currently a number of recorded gravesites that are unaccounted for, and it is believed that they have been lost to erosion. There is also the slight potential for fire suppression activities to affect unrecorded cultural resources within the park.

There would be the potential for fire suppression activities to affect unknown cultural resources within the park. Overall, however, the "No Action" Alternative would likely not adversely impact known cultural resources in the park.

3.8.2.2 Alternative 2 (NPS Preferred Alternative)

Proposed activities with the potential to adversely impact known and unknown cultural resources include building firelines and hazard fuels reduction activities, but these impacts would be minimized under this alternative.

During all wildland fire suppression, the minimum impact suppression tactics policy would be incorporated to the greatest extent feasible and appropriate for the given situation. Tactics directly or indirectly facilitating the protection of landscapes, structures, sites, or the ethnographic value to tribal members include:

- Keeping fire engines on existing roads.
- Keeping fireline width as narrow as possible when it must be constructed.
- Avoiding ground disturbance within known archeological/cultural/historic resource locations. When fireline construction is necessary in proximity to these resource

locations it would involve as little ground disturbance as possible and be located as far outside of resource boundaries as possible.

- Using soaker hose, sprinklers or foggers in mop-up; avoiding boring and hydraulic action.

Creating defensible space of at least 30 feet around each structure would not have any adverse impacts to structures on the National Historic Register nor cultural landscapes. Hazard fuels to be removed would only be dead, down, and diseased timber, ladder fuels, non-ornamental shrubs, undergrowth and fallen limbs, and non-ornamental trees of less than 4 inches dbh (diameter at breast height). Remaining live trees would be limbed to approximately 12 feet from the base of tree. In consultation with the park cultural resource management specialist, however these standards would be modified, where appropriate to maintain historical and culturally significant settings. In addition, defensible space would have the beneficial impacts of facilitating the objective of protecting identified cultural resources. There would be the slight potential for fire suppression activities to affect unrecorded cultural resources within the park. Maintaining the open grassy area on the island with the use of a lawn mower would have no adverse impact to the cultural landscapes, structures, sites, or the ethnographic value to tribal members of Saint Croix Island International Historic Site.

### *3.8.3 Conclusion*

Under both alternatives there would be the potential to adversely impact unrecorded cultural resources through wildland fire suppression activities. However, Alternative 2 would contribute most to long term protection of cultural resources with the creation of hazard fuel breaks along sections of the park's perimeter and defensible space around park structures.

The implementation of any of the alternatives would not impair cultural resources or values that are (1) necessary to fulfill specific purposes identified in the enabling legislation of the park, (2) key to the natural or cultural integrity of the park or opportunities for enjoyment of the park, and (3) identified as a goal in the park's general management plan or other National Park Service planning documents.

## 3.9 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).

The cumulative impacts analysis for the fire management plan environmental assessment considers the past, present, and reasonably foreseeable future actions on land uses that could add to (intensify) or offset (compensate for) the effects on the resources and that may be affected by the fire management plan alternatives. Cumulative impacts vary by resource and the geographic

areas considered here are generally the park and areas adjacent to the park. In some instances, activities may result in both negative and positive impacts when considering the short and long-terms.

There are no current or foreseeable future actions on land uses planned at Saint Croix Island International Historical Site that would have any affects on the proposed actions in either the "No Action" Alternative, or the "NPS Preferred" Alternative. Past actions of the park that could potentially add to (intensify) or offset (compensate for) the effects on the resources and that may be affected by the fire management plan alternatives is the development of the park's interpretive trail and shelter developed in 2003.

Since neither alternative would result in any significant adverse cumulative impacts and only minor beneficial cumulative impacts (*e.g.* protection of cultural resources from wildland fire), if either the "No Action" Alternative or the "NPS Preferred" Alternative were selected, there would be no contribution to the cumulative impacts to any of the natural or cultural resources at Saint Croix Island International Historic Site.

# Chapter 4 – Consultation and Coordination

## 4.1 COMPLIANCE REQUIREMENTS

Saint Croix Island International Historic Site is currently managed based on the direction of the approved 1998 General Management Plan and Land Management Plan. National Park Service (NPS) policy (*Director's Order #18: Wildland Fire Management)* requires that every park unit with burnable vegetation develop a fire management plan (FMP) approved by the park superintendent. The FMP serves as a detailed and comprehensive program of action to implement fire management policy principles and goals, consistent with the unit's general management objectives. The park's fire management program, guided by federal policy and the park's resource management objectives, will serve to protect life, property, and natural and cultural resources. The proposal to prepare a fire management plan for 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.

### *4.1.1 Federal*

4.1.1.1 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 and natural environment and provide an opportunity for the public to review and comment on the project. Following public and agency review, the Director of the NPS 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 and natural environment, the Regional Director will issue a "Notice of Intent" to prepare an Environmental Impact Statement.

4.1.1.2 Consultation with the U.S. Fish & Wildlife Service

The purposes of the Endangered Species Act of 1973, as amended (16 USC 1531 et seq.) (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 & 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 U.S. Fish & 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 & 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 U.S. Fish & Wildlife Service on June 07, 2004 (Mark McCollough, Endangered Species Biologist at the U.S. Fish & Wildlife Service Maine Field Office). Mr. McCollough indicated that there were currently no federally-listed species at the park, and that the U.S. Fish & Wildlife Service had no concerns regarding adverse effects on federally-listed species from any of the proposed fire management activities.

4.1.1.3 Consultations with the State Historic Preservation Officer (SHPO) and Maine Tribes

Archeological evidence suggests that the area around Saint Croix Island had already been inhabited for at least 3,000 years before European settlement. This area also lies within the ancestral lands of the Passamaquoddy Tribe, which has an on-going connection with Saint Croix Island for ceremonial purposes.

Section 106 of the National Historic Preservation Act, as amended (36 CFR 800), requires federal agencies to consider the affects of projects they fund, permit, or license on historic properties that are listed or eligible for listing in the NRHP. Compliance with Section 106 requires agencies to initiate consultation during the project's early planning stages with appropriate parties, including the pertinent State and/or Tribal Historic Preservation Officer(s); identify historic properties within the project's area of potential effect; and determine what impact, if any, the project will have on those resources. Section 106 consultations and NEPA are two separate, distinct processes. They can and should occur simultaneously, and documents can be combined, but one is not a substitute for the other. They should, however, be coordinated to avoid duplication of public involvement or other requirements. The information and mitigation gathered as part of the 106 review must be included in the NEPA document, and the 106 process must be completed before a finding of no significant impact (FONSI) or the official record of decision (ROD) can be signed on a proposal that affects historic properties (DOI, 2001a).

If the agency, in consultation with the other consulting parties, determines that the project has the potential to have an adverse impact on historic properties, further consultation must occur to seek ways to avoid, minimize, or mitigate the effects. Therefore, the federally recognized Maine tribes and the SHPO will have the opportunity to review and comment on this proposed Fire Management Plan.

Those Federally Recognized Tribes in Maine consulted include:

- Passamaquoddy Tribe at Pleasant Point

- Passamaquoddy Tribe at Indian Township
- Penobscot Nation
- Houlton Band of Maliseet Indians
- Aroostook Band of Micmacs

The NPS initiated formal consultation with the State Historic Preservation Officer and Federally Recognized Tribes in Maine; please see Appendix A for responses.

## 4.2 LIST OF PREPARERS

**The Mangi Environmental Group**

- Joel Gorder, Project Manager
- Rebecca Whitney, Geographic Information Systems (GIS) Analyst
- Malcolm Gramely, Fire Management Consultant

**National Park Service – Saint Croix Island International Historic Site**

- Douglas C. Jones, Fire Management Officer, Acadia National Park & Saint Croix Island International Historic Site
- Judy H. Connery, Natural Resource/NEPA Specialist, Acadia National Park & Saint Croix Island International Historic Site
- Doug Wallner, Prescribed Fire Specialist, Northeast Regional Office, NPS
- Lee Terzis, Cultural Resource Program Manager, Acadia National Park & Saint Croix Island International Historic Site
- Dusty Warner, Fire Education, Prevention, and Information Specialist, Acadia National Park & Saint Croix Island International Historic Site
- Fred Olson, Assistant Fire Management Officer/Park Ranger, Acadia National Park & Saint Croix Island International Historic Site
- Michael Blaney, Lands Specialist, Acadia National Park & Saint Croix Island International Historic Site
- Rick Lancaster, Lead Firefighter, Acadia National Park
- Linda Gregory, Botanist, Acadia National Park & Saint Croix Island International Historic Site
- Deb Wade, Chief of Interpretation, Acadia National Park & Saint Croix Island International Historic Site
- Bob Breen, Air/Water Quality Program Manager, Acadia National Park & Saint Croix Island International Historic Site

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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 that request a copy of the EA, including those listed under "Consultation and Coordination". These parties will be notified by letter that the EA is available for review and will be instructed on how to obtain a copy of the EA. This EA will be available on the Internet at http://www.nps.gov/sacr/pphtml/documents.html.

Copies of this EA will be sent directly to the following parties:

- Earle G. Shettleworth, Jr., Maine State Historic Preservation Officer
- Chief Barry Dana, Penobscot Nation
- Chief William Phillips, Aroostook Band of Micmacs
- Chief Brenda Commander, Houlton Band of Maliseet Indians
- Governor Melvin Francis, Passamaquoddy Tribe – Pleasant Point
- Governor Robert Newell, Passamaquoddy Tribe – Indian Township
- Fred Tomah, Houlton Band of Maliseet Indians
- Bonnie Newsom, Tribal Historic Preservation Officer, Penobscot Nation
- Bernard Jerome, Cultural Director, Aroostook Band of Micmacs
- Donald Soctomah, Tribal Historic Preservation, Passamaquoddy Tribe
- Sharri Venno, Environmental Planner, Houlton Band of Maliseet Indians
- Dr. Steve Katona, Chairman, Acadia National Park Advisory Committee
- Librarian, Calais Public Library

# APPENDIX A

# CONSULTATIONS WITH UNITED STATES FISH & WILDLIFE SERVICE, FEDERALLY RECOGNIZED TRIBES IN MAINE, AND THE MAINE STATE HISTORIC PRESERVATION OFFICE

## Joel Gorder

**From:** Doug_Jones@nps.gov
**Sent:** Tuesday, June 08, 2004 3:10 PM
**To:** Joel Gorder
**Subject:** Section 7 ESA Consultation, SACR Fire Management Plan/EA

Joel,

This documents Judy's consultation with the USFWS.

Doug

----- Forwarded by Doug Jones/ACAD/NPS on 06/08/2004 04:07 PM -----

Judy Hazen Connery
06/07/2004 04:57 PM EDT

To: Doug Jones/ACAD/NPS@NPS
cc: Bruce Connery/ACAD/NPS@NPS
Subject: Section 7 ESA Consultation, SACR Fire Management Plan/EA

I just spoke by phone with Mark McCollough, Endangered Species Biologist at the Maine Field Office of the U.S. Fish and Wildlife Service (USFWS).
After I described the alternatives in the draft Environmental Assessment for the Saint Croix Island International Historic Site's Fire Management Plan, Mark indicated that there were currently no federally-listed species at St. Croix Island IHS, and that the USFWS had no concerns regarding adverse effects on federally-listed species from fire management activities there.

Mark did request that we include in the final plan that if a federally listed species should become established at SACR or the immediate area surrounding NPS lands, the NPS would consult with the USFWS to determine the best way to protect those individuals during fire management activities. I assured Mark that we would include this statement, or one to this effect, in the final FMP.

Mark also said that there was no need for a follow-up letter requesting informal Section 7 Consultation. Therefore, this note will serve as the record of contact with USFWS, and should be included in the administrative record.

Thanks,
Judy

---
Judith Hazen Connery
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