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

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WILDLAND FIRE MANAGEMENT PLAN

SAINT CROIX ISLAND
INTERNATIONAL HISTORIC SITE
Calais, Maine

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EXECUTIVE SUMMARY

The Saint Croix Island International Historic Site Fire Management Plan (FMP) provides Saint Croix Island International Historic Site (the park) with an operational document to guide all wildland fire management activities within the park. National Park Service (NPS) policy requires that all NPS units with vegetation capable of sustaining fires, including the park, develop fire management plans. The FMP fulfills those policy requirements and implements NPS fire management goals to protect human safety, protect facilities and cultural resources, perpetuate natural resources and their processes, and perpetuate cultural and historic scenes (NPS Reference Manual RM-18; Wildland Fire Management).

The park's mission is to preserve Saint Croix Island as a monument to the beginning of both the United States and Canada. In 1604, Pierre Dugua, Sieur de Mons, accompanied by Samuel Champlain and 77 other men, established a settlement on St. Croix Island. This was the first attempt by France to establish a colony in North America and was one of the first settlements established by Europeans in North America. The settlement was short-lived and in the summer of 1605, the French moved to a more favorable location in the Canadian province of Nova Scotia.

The park is located approximately seven miles south of Calais, Maine, in the community of Red Beach and along State Highway U.S. Route 1. The largest portion of the park, with approximately 38.5 acres, is located on the mainland and is bordered to the east by the Saint Croix River. Saint Croix Island, approximately 6.5 acres, is located in the Saint Croix River and immediately adjacent to the United States – Canada border. Saint Croix Island has a mix of vegetation, including grass fields, shrub areas, and forest stands. The mainland has a similar mix of vegetation and also has mowed lawns and open woodlands.

Historical wildland fire occurrence within the park is quite low. In the past 15 years, only two fires have been known to occur within the park. Both these fires were human caused. The historical fire frequency for the predominate forest stands within the general area of the mainland portion of the park is once every 100 to 200 years and these fires can burn with stand replacing severity.

The goals of the FMP are to 1) protect human health and safety, 2) protect life and property, 3) protect cultural resources, 4) protect natural resources, and 5) educate park staff and the public. To implement these goals, all wildland fires that occur within the park will be suppressed, the future use of prescribed fire as a management tool will be researched, education programs to inform employees, the public, and adjacent landowners of the risks of wildland fires will be developed and presented, and manual and mechanical hazard fuel reduction treatments will be carried out 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, thus reducing the likelihood of a wildland fire reaching and destroying the structure.

The park is managed as a single fire management unit (FMU) due to its small size and relative uniformity. 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. The FMP requires that all suppression actions will use the appropriate management response (AMR) for each particular fire. The AMR will take into consideration the safety of firefighters and the public, the resources and values to be protected, the condition of fuels, current and predicted fire behavior, weather, and topography. The AMR selected may vary from fire to fire and may vary within an individual fire. All wildland fire suppression actions will adhere to the Minimum Impact Suppression Tactics (MIST) guidelines. MIST uses the least amount of forces and actions necessary to

effectively achieve fire suppression objectives consistent with park resource management objectives. The Calais Fire Department provides all initial attack fire suppression services for the park through a cooperative agreement.

This FMP implements fire management policies and helps achieve resource management and fire management goals as defined in 1) Federal Wildland Fire Management Policy and Program Review (2001); 2) Managing Impacts on Wildfires on Communities and the Environment, and Protecting People and Sustaining Resources in Fire Adapted Ecosystems - A Cohesive Strategy (USDOI/USDA, 2000); 3) A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment; 10 Year Comprehensive Strategy Implementation Plan (2002); and the National Fire Plan (2001).

An environmental assessment for this FMP was completed pursuant to the National Environmental Protection Act. The U.S. Fish and Wildlife Service was consulted concerning potential effects on threatened and endanger species from the management actions identified in the FMP. Consultation on the effects of those actions to cultural resources in the park was conducted with the federally recognized Maine tribes and the Maine Historic Preservation Commission (SHPO), pursuant to Section 106 of the National Historic Preservation Act.

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I. INTRODUCTION

A. PURPOSE AND NEED

The Fire Management Plan (FMP) for Saint Croix Island International Historic Site (the park), located in Calais, Maine, defines the goals and objectives for wildland fire management at the park. This plan prescribes actions to be taken by the National Park Service (NPS) staff at the park to implement the park's fire management program in accordance with NPS policies and goals.

The FMP is guided by NPS Director's Order-18; Wildland Fire Management (DO-18), which requires that all park units with vegetation capable of sustaining fire develop a fire management plan approved by the park's superintendent.

B. COLLABORATIVE PROCESSES

This FMP was created incorporating input and advice from federal, state, and local agencies, neighboring landowners, the local community, and NPS area and regional staff. Because staffing levels at the park are very low, implementing this FMP relies on close cooperation with the local fire department and emergency services, and coordination with area and regional NPS fire management staff.

C. POLICY IMPLEMENTATION

This FMP will implement Federal fire management policies and help achieve resource management and fire management goals defined in:

1) Federal Wildland Fire Management Policy and Program Review (2001) (http://www.nifc.gov/fire_policy/index.htm)

2) Managing Impacts of Wildfires on Communities and the Environment, and Protecting People and Sustaining Resources in Fire Adapted Ecosystems – A Cohesive Strategy (USDOI/USDA, 2000)

3) A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment; 10 Year Comprehensive Strategy (2001)

4) A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment; 10 Year Comprehensive Strategy Implementation Plan (2002)

5) The Wildland and Prescribed Fire Management Policy: Implementation and Reference Guide (1998)

6) Managing the Impacts of Wildfires on Communities and The Environment (2001)

7) National Fire Plan (2001)

8) National Park Service Wildland Fire Management Strategic Plan; 2003 - 2008 (2003)

9) National Park Service Management Policies (2001)

D. NEPA AND OTHER COMPLIANCE

In developing this FMP, an Environmental Assessment (EA) was prepared to analyze potential environmental impacts, solicit public input, and inform the superintendent. This FMP complies with National Environmental Policy Act (NEPA) requirements and National Park Service policy. A copy of the Finding of No Significant Impact (FONSI) is included in Appendix D and the EA is on file in the Fire Management Office at Acadia National Park.

As required by Section 7 of the Endangered Species Act, the U.S. Fish and Wildlife Service was consulted and their findings are also provided Appendix D.

The FMP will implement activities in accordance with National Historic Preservation Act of 1966 (NHPA) and with the regulations and directions governing the protection of historic and cultural properties, as outlined in the Department of Interior Manual, Part 519 (519 DM), and the Code of Federal Regulations (36 CFR 800). The National Historic Preservation Act, as amended, particularly Section 106, sets forth the requirements for the protection of the historic properties found in the park. In developing this plan, consultation with the State Historic Preservation Officer (SHPO) was required by the National Historic Preservation Act. A copy of the record of that consultation is included in Appendix D.

E. AUTHORITY FOR IMPLEMENTATION

The legal authority for the operation of the park's fire management program is found in 16 U.S.C. Chapters 1. The specific authorities can be found in 620 DM 1.1. Specific laws that provide the primary authority for developing and implementing this plan are:

1. National Park Service Organic Act of 1916

Authority for carrying out a fire management program at the park originates with the creation of the National Park Service in 1916 (16 U.S.C. 1). This act, known as the National Park Service Organic Act, states that the fundamental purpose of all “[national] parks monuments, and reservations… is 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.

2. The General Authorities Act of 1970

The General Authorities Act of 1970 (16 U.S.C. 1a et seq.) affirms that all national park sites, while “distinct in character,” are “united through their inter-related purposes and resources into one national park system as cumulative expressions of a single national heritage.” This act explicitly states that the NPS Organic Act and other mandates protecting natural and cultural resources apply equally to all sites in the national park system. For fire management purposes, this law clarifies the authority for parks primarily established to preserve natural resources to suppress fire to preserve both natural and cultural resources and for parks established primarily to preserve historical resources to use fire to manage both cultural and natural resources.

3. The National Parks & Recreation Act of 1978

The National Parks & Recreation Act of 1978 amended NPS general authorities to mandate that all park units be managed and protected "in light of the high public value and integrity of the National Park System". The act further mandates that no activities should be undertaken

"in derogation of the values and purposes for which these various areas have been established," except where specifically authorized by law. This law limits the authority of parks to undertake activities that will impair park resources and mandates that the NPS manage parks to preserve park resources. Under this law, suppression of wildland fire and use of prescribed fire are appropriate activities where they are used to protect park resources.

Additional authorities for the development of this FMP and the management and use of fire within the park come from the park's enabling legislation (see Section II B 1).

II. RELATIONSHIP TO LAND MANAGEMENT PLANING AND FIRE POLICY

A. NPS POLICY

1. National Park Service Management Policies

The *National Park Service Management Policies* (2001) is the basic Service-wide policy document of the NPS. It is the highest of three levels of guidance documents in the NPS Directives System. *National Park Service Management Policies* is designed to provide NPS management and staff with clear information on NPS policy, required and/or recommended actions, and other information to help them manage parks and programs effectively.

National Park Service Management Policies includes the following guidance related to the preparation of FMPs and the management of fire on national park sites:

> *Wildland fire may contribute to or hinder the achievement of park management objectives. Therefore, park fire management programs will be designed to meet park resource management objectives while ensuring that firefighter and public safety are not compromised.*
>
> *Each park with vegetation capable of burning will prepare a fire management plan and will address the need for adequate funding and staffing to support its fire management program. The plan will be designed to guide a program that responds to the park's natural and cultural resource objectives; provides for safety considerations for park visitors, employees, neighbors, and developed facilities; and addresses potential impacts to public and private property adjacent to the park. An environmental assessment developed in support of the plan will consider the effects on air quality, water quality, health and safety, and natural and cultural resource management objectives. Preparation of the plan and environmental assessment will include collaboration with adjacent communities, interest groups, state and federal agencies, and tribal governments. (NPS Management Policies, 2001, Chapter 4.5)*
>
> *There may be situations in which an area may be closed to visitor use to protect the natural resources (for example, during an animal breeding season) or for reasons of public safety (for example, during a wildland fire). Such closures may be accomplished under the superintendent's discretionary authority, and will comply with applicable regulations (36 CFR 1.5 and 1.7). (NPS Management Policies, Chapter 4.1)*

2. Director's Orders 18 and Reference Manual 18

The second level of NPS guidance documents (under *NPS Management Policies*) are Director's Orders. Director's Orders provide operational policies and procedures that support and supplement Management Policies. Director's Orders are often further supported with a third level of guidance consisting of reference manuals or handbooks. Specific guidance to the NPS on wildland fire is contained in Director's Orders 18 (DO-18) and the attendant Reference Manual 18 (RM-18).

Director's Order 18 – Wildland Fire Management (December 31, 2003) and *Reference Manual 18 – Wildland Fire Management* (February 16, 1999 with later amendments) are the documents that provide National Park Service units with specific guidance on the preparation

of wildland fire management plans and on wildland fire and prescribed fire management. DO-18 states:

> *Wildland fire may contribute to or hinder the achievement of park management objectives. Therefore, park fire management programs will be designed to meet resource management objectives prescribed for the various areas of the park and to ensure that firefighter and public safety are not compromised.*
>
> *Each park with vegetation capable of burning will prepare a fire management plan... ... to support its fire management program. The plan will be designed to guide a program that responds to the park's natural and cultural resource objectives; provides for safety considerations for park visitors, employees, neighbors, and developed facilities; and addresses potential impacts to public and private property adjacent to the park..*
>
> *The NPS is committed to protecting park resources and natural ecological processes; but firefighter and public safety must be first priority in all fire management activities.*

RM-18 states that the paramount considerations of each park fire management program will be:

1. *Protection of life, both employee and public*
2. *Protection of facilities and cultural resources*
3. *Perpetuation of natural resources and their associated processes*
4. *Perpetuation of cultural and historic scenes.*

These priorities are further emphasized in RM-18 (chapter 3, page 1) with the following language:

> *Safety is the responsibility of everyone assigned to a wildland or prescribed fire incident. The safety of employees and visitors alike must be of prime concern during fires. Agency administrators at all levels need to stress that firefighter and visitor safety always takes precedence over property and resource loss.*

B. RELATION TO ESTABLISHING AND OTHER LEGISLATION

1. Establishment

The park's enabling legislation, *An Act To Authorize The Establishment of the Saint Croix Island National Monument in the State of Maine* (63 Stat. 158, June 8, 1949) recognized the national historical importance of the park's lands and directed the NPS to establish the park "for the benefit of the people of the United States". Public Law 98-422 (1984) changed the park's name to Saint Croix Island International Historic Site,

Saint Croix Island International Historic Site is preserved as a monument to the beginning of the United States and Canada. In 1604, Pierre Dugua, Sieur de Mons, accompanied by Samuel Champlain and 77 other men, established a settlement on St. Croix Island. Saint Croix Island is a 6.5-acre island in the Saint Croix River, which divides the United States and Canada near Calais, Maine and Saint Stephen, New Brunswick.

Preceding the settlements of Jamestown (1607) and Plymouth (1620), Pierre Dugua's outpost was one of the earliest European settlements on the North Atlantic coast of North America. It was also the first attempt by the French at year-round colonization in the territory they called

La Cadie or l'Acadie (Acadia). The settlement was short-lived, however, and in the summer of 1605, the French moved to a more favorable location where they established the Port Royal Habitation on the shores of the present-day Annapolis Basin, Nova Scotia.

2. Significant Resources

The park covers approximately 45 acres, 39 acres are located on the mainland and 6 acres are located on Saint Croix Island. One mainland section of the park contains a mixed conifer-hardwood cover type while the other mainland section contains some managed lawn areas. The island contains a grass cover type with a brush component along the periphery of the grass areas at the shoreline. (See Figure 1)

Cultural and archeological resources at the park are divided between Saint Croix Island and the mainland. The island contains a boathouse associated with the former 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 Lane-Robb house. The McGlashan-Nickerson house is on the National Register of Historic Places. There are also remains of activities associated with 19th century granite and plaster industries, and a Native American site.

The mainland portion of the park contains an interpretive trail with panels and sculptures that describe the events of 1604-05. A trail shelter on the mainland, which overlooks the Saint Croix River and the island, contains a scale model that depicts the 1604-1605 French settlement as shown in Samuel Champlain's drawings. Other visitor services on the mainland include several picnic tables, a boat ramp, and a single vault toilet. A U.S. Coast Guard aid to navigation light and tower is located on the island. (see Figure 1)

Both the island and the mainland are of enduring cultural significance to the Wabanaki people, in particular the Passamaquoddy tribes. The Passamaquoddy use the island to this day.

C. GOALS OF THE GENERAL MANAGEMENT PLAN RELATED TO FIRE MANAGEMENT

The main purpose of a general management plan (GMP) is to identify desired resource conditions and visitor experiences to be achieved by the park over a 10 to 20 year period. The desired resource conditions and visitor experiences ultimately determine the strategies, programs and actions the park will utilize.

All parks within the national park system are required by law to operate under approved general management plans. This ensures that park managers carry out the mission of the National Park Service and the individual park unit as effectively and efficiently as possible.

The general management plan provides a foundation to guide and coordinate all subsequent park planning and management. Other park planning documents, including fire management plans and resource management plans, must follow the management direction of the GMP

The *Saint Croix Island International National Historic Site General Management Plan* (1998) includes six mission goals that relate to fire management activities in the park. Those goals are:

1) *Preserve Park Resources: Cultural resources that are associated with the 1604-05 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.*

2) *Preserve Park Resources: In a manner compatible with achieving the cultural resources mission goal, 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.*

3) Preserve Park Resources: Lands within the site boundary are managed to protect the site's natural and cultural resources in their relatively natural setting, and to assure an adequate base for site management and public use.

4) Provide for Public Enjoyment and Visitor Experience: Visitors safely use the international historic site based on appreciation of its history and significance and are satisfied with the availability, accessibility, diversity, and quality of facilities, services, and appropriate recreational activities.

5) Ensure Organizational Effectiveness: To protect site resources through responsive, effective, and accountable operation, management at Saint Croix Island IHS is integrated with comparable operations at Acadia National Park, the closest National Park Service unit; the National Park Service uses best current management practices, systems, and technologies to accomplish its mission for the site.

6) Ensure Organizational Effectiveness: Other agencies, organizations, and individuals in the United States and Canada are involved as feasible and appropriate to ensure that site resources are protected and preserved; that the site appropriately commemorates French colonization in North America and the St. Croix settlement of 1604-05; and that management and use are compatible and consistent to the greatest extent practicable with regional interests and state law.

D. OBJECTIVES OF RESOURCE MANAGEMENT PLAN RELATED TO FIRE MANAGEMENT

The park does not currently have a cultural resource management plan or a natural resources management plan. The goals and objectives for the FMP are developed directly from the applicable mission goals found in the park's GMP.

E. ACHIEVING LAND MANAGEMENT PLAN OBJECTIVES THROUGH THE FMP

This FMP will help meet the GMP mission goals identified above. Conducting fire prevention programs, creating boundary fuel breaks, reducing hazard fuels and suppressing wildland fires will aid in preventing fire damage to park resources and facilities by reducing the start and spread of wildland fires within the park.

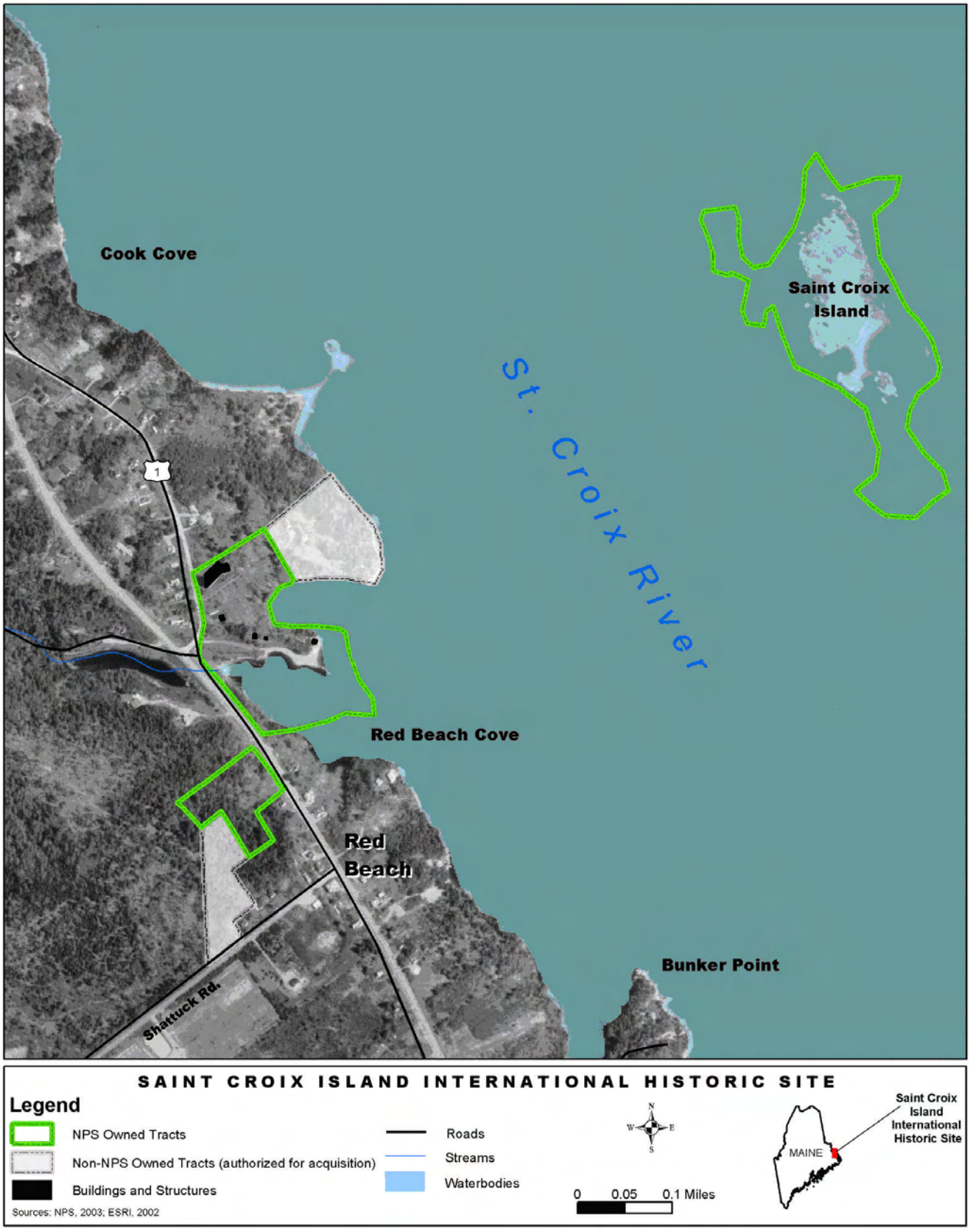

Figure 1 – Saint Croix Island International Historic Site

III. WILDLAND FIRE MANAGEMENT STRATEGIES

A. GENERAL MANAGEMENT CONSIDERATIONS

The primary goals and objectives of the park's wildland fire management program are to protect human health and safety, protect property, enhance community protection, diminish risk and consequences of severe wildland fires and, to the extent possible, increase health of the ecosystem.

To accomplish these goals and objectives, wildland fires at the park will normally be managed through suppression strategies. Fire managers will balance the potential impacts of wildland fire with the potential impacts of fire suppression activities in choosing the appropriate management response.

1. Area-wide Considerations

   Area-wide considerations have been taken into account in developing the fire management strategies for this FMP. The Maine Forest Service, the Calais Fire Department and adjacent property owners have had an opportunity to collaborate in the development of this plan. These collaborations and partnerships will continue through the life of this plan and will be extended to other interested parties who become identified as stakeholders in the fire management operations of the park

   Regional fire management strategies do not currently affect the park's fire management program due to the park's small size and limited fire history. This may change as the Fire Program Analysis (FPA) system is implemented nation-wide over the next five years. FPA is a fire planning and budgeting tool that looks at the wildland fire management activities of all fire agencies (Federal, state and local) within a given landscape-scale (regional) area. Future FPA system analysis may dictate a more regionally integrated approach to fire management operations in the park. If this becomes the case, this FMP will be updated to incorporate new regional strategies.

2. 10 Year Comprehensive Strategy Core Principles

   The core principles of the 10 Year Comprehensive Strategy have been considered in the development of this plan.

   a. Collaboration
      Collaboration with partners is of major importance in developing and implementing this plan. As noted above, collaboration with interested agencies and parties has been conducted and will continue. Other interested parties will be identified and added to this collaboration when applicable.

   b. Priority Setting
      Priorities for this plan have been developed based upon the policies, laws and regulations identified in Sections I and II of this plan.

   c. Accountability
      Accountability for achieving the goals and objectives in the FMP will be accomplished by reporting program results in the National Fire Plan Operations and Reporting System (NFPORS).

Contribution to the Goals of the National Fire Plan

a. National Fire Plan
Park wildland fire operations are not expected to contribute significantly to any of the National Fire Plan goals because of the park's small size and very low fire occurrence.

b. Performance Measures and Results Monitoring
The primary fire management performance measure applicable to the park involves effective protection of life, property and existing habitat conditions.

B. WILDLAND FIRE MANAGEMENT GOALS

The goals for the park's fire management program are to:

- Protect life and property
- Protect human health and safety
- Protect cultural resources
- Protect natural resources
- Educate park staff and the public.

These goals provide the programmatic direction for the park's wildland fire management program and they help to implement the park's mission goals as defined in the park's GMP (see Section II C).

The FMP goals reflect Federal fire policy, the core principles and goals of the *Comprehensive Strategy,* and the *Cohesive Strategy.* They also contribute to accomplishing the goals identified in the *National Park Service Wildland Fire Management Strategic Plan).* This strategy outlines goals and strategies in four principle areas: park resources, park visitors, external partnerships and organizational effectiveness.

C. WILDLAND FIRE MANAGEMENT OPTIONS

The following wildland fire management options are available for use in the park

1. Wildland Fire Suppression

All fires that are not ignited by park managers for specific purposes (prescribed fires) are defined as wildland fires. Historically, all wildland fires in the park have been extinguished. Under this plan, the park will continue to suppress all wildland fires to protect life, property, and park resources.

Suppression actions will use the appropriate management response (AMR) for each particular fire. The AMR will take into consideration the safety of firefighters and the public, the resources and values to be protected, the condition of fuels, current and predicted fire behavior, weather, and topography. The AMR selected may vary from fire to fire and may vary within an individual fire.

2. Prescribed Fire

   Prescribed fires are any fires ignited by management actions in defined areas under predetermined weather and fuel conditions to meet specific objectives. Prescribed fire will not be used in the park at this time. The park will investigate the use of prescribed fire as a potential management tool for future use. This investigation may include tests burns within the park.

3. Wildland Fire Use

   Wildland fire use is the management of naturally ignited (*e.g.* lightning caused) wildland fires to accomplish specific pre-stated resource management objectives in predefined geographic areas. Due to the small size of the park, the close proximity of adjoining properties, the lack of on-site fire management personnel and the lack of natural fire ignitions, wildland fire use will not be used at the park.

4. Non-Fire Applications

   Reducing or removing fuels through manual and mechanical hazard fuel treatments (e.g. chainsaws, mowers, and brush hogs) will be used to maintain designated open areas on Saint Croix Island (approximately 6 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 will be reviewed and approved by the park's cultural resource specialist and natural resource specialist prior to implementing those treatments.

   To the greatest extent possible, fuel treatments will complement normal landscape maintenance activities to reduce disruption and duplication of efforts, and thus resulting in a more cost effective operation.

D. DESCRIPTION OF WILDLAND FIRE MANAGEMENT STRATEGIES BY FIRE MANAGEMENT UNIT

A fire management unit (FMU) is any land management area definable by objectives, management constraints, topographic features, access, values-to-be-protected, political boundaries, fuel types, or major fire regime groups, etc., that sets it apart from management characteristics of an adjacent unit.

The park will be managed as a single fire management unit due to the relative uniformity and small size (see Figure 2)

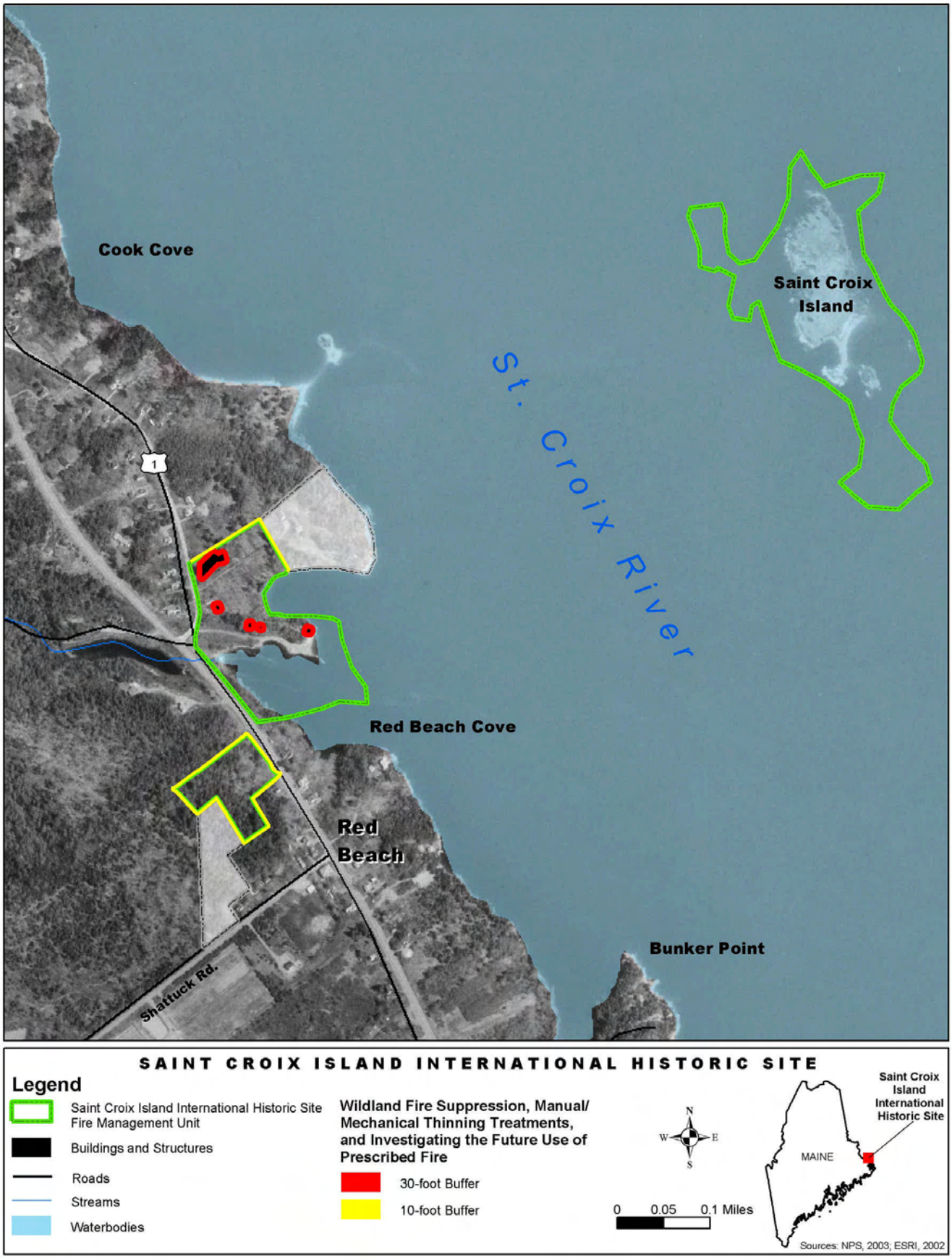

Figure 2 - Fire Management Unit

1. Saint Croix Island International Historic Site Fire Management Unit

The Saint Croix Island International Historic Site Fire Management Unit is located in the small community of Red Beach, which is part of the town of Calais, Maine. The FMU is located on the shores of the Saint Croix River, adjacent to the international boundary between the United States and Canada. The town center of Calais is located approximately 7 miles upstream (northwest) of the FMU.

a. Characteristics

(1). Vegetation

The Saint Croix Island International Historic Site FMU includes approximately 45 acres. Table 1 shows the approximate acreage of each cover types present in the FMU.

Table 1 - Cover Type Acres

Cover Type	Acres
Forestland	39
Grass	6
Total	**45**

The FMU is made up of three small islands in the middle of the Saint Croix River that are linked together during periods of low tide and a mainland portion that is bisected by State Highway U.S. Route 1. The two smaller islands (Chapel Nubble and Wrights Nubble) are located south of the main island (Saint Croix Island) and are covered with a tree/shrub mixture, mixed grasses, ferns, and mosses. Saint Croix Island is primarily grass, with a perimeter of trees and shrubs that rings the island. The grass field has been in place for at least 25 years, according to aerial photographs, and probably dates back to the 19th century or earlier. Forest regrowth and subsequent cutting is associated with the more recent use of the island as a U.S. Coast Guard light station.

Portions of the FMU have changed drastically since the French arrived in1604. When the French arrived, they encountered a forested island and mainland. The island was subsequently cleared to provide timber and space for settlement. Vegetation on the island now consists of a maintained grass area surrounded by a forest/shrub perimeter.

Open fields characterize approximately 13% of the FMU. These occur primarily on the Saint Croix Island portion of the park. The remainder of the island is covered with shrubs and trees that are important in minimizing soil erosion. The mainland portion of the FMU is composed of two distinct cover types. The area southwest of the cove site on the east side of U.S. Route 1 is younger successional woodland characterized by patchy glades and younger successional vegetation. The remainder of the mainland portion of the park is composed of a more mature mid-successional forest composed of a mixture of conifers and hardwoods of varying age classes.

The Natural Resource Inventory Study for Saint Croix Island International Historic Park, Final Report, prepared November 1997, (Cronan, Kelly, Piampiano, *et al,* 1997), identified tree and shrub species on the main island to include American beech *(Fagus grandifolia),* yellow birch *(Betula alleghaniensis),* paper birch *(Betula papyrifera),* speckled alder *(Alnus incana),* white cedar *(Thuja occidentalis),* trembling aspen *Populus tremulides),* bigtooth aspen *(Populus grandidentata),* red spruce *(Picea rubens),* white spruce *(Picea glauca),* pin cherry *(Prunus pennsylvanica),* black cherry *(P. serotina),* eastern white pine *(Pinus strobes),* raspberry *(Rubus* sp.*),* meadow sweet *(Spirea alba),* wild rose *(Rosa* sp.*),* striped maple *(Acer pennsylvanicum),* and cranberry *(Vaccinum vitis-idaea)* as the primary vegetation

An open successional woodland cover type of mixed conifers and hardwoods characterizes the mainland portion of the FMU, with trees ranging in diameter from 3 to 16 inches. The mixed forest growth is composed, in part, of red oak *(Quercus rubra),* paper birch *(Betula papyrifera),* eastern white pine *(Pinus strobes),* wild rose *(Rosa spp.),* lupine, speckled alder *(Alnus rugosa),* red spruce *(Picea rubens),* balsam fir *(Abies balsamea),* red maple *(Acer rubrum),* shadbush *(Amelanchier arborea),* larch *(Larix laricina),* cherry *(Prunus pensylvanica),* elm *(Ulmus Americana),* sugar maple *(Acer saccharum),* and large old trembling aspen *(Populus tremuloides).* The area also includes some grass/shrub-dominated areas.

Extensive changes in the native forest have resulted from European settlement. The region has seen several changes in fire occurrence, beginning with an increase during the post-colonial period caused by logging and a late 20th century decrease due to improved fire prevention and suppression efforts. The 1997 natural resource study of the park identified more than 35 herbaceous and woody species are present in the FMU. These are mostly opportunistic species that have taken over previously disturbed areas.

(2). Wildlife

According to the 1997 natural resource study, the forests and fields of the mainland portion of the FMU provides habitat for many common eastern species of vertebrates including white-tailed deer* (*Odocoileus virginianus*), snowshoe hare (*Lepus* americanuss), black bear* (*Ursus americanus*), red squirrel (*Tamiasciutus hudsonicus*), deer mouse (*Peromyscus maniculatus*), and red-backed vole *(Clethrionomys gapperi).* Eastern species of vertebrates found on or around Saint Croix Island include bat* (species unknown) *(Chiroptera),* white-tailed deer* *(Odocoileous virginianus),* and harbor seal *Phoca vitulina).* Species marked with an asterisk (*) were identified by physical evidence, not by living specimens.

Numerous species of birds use the area in and around the island for nesting, foraging, and migration. A few species observed include common loon *(Gavia immer),* song sparrow *(Melospiza melodia),* red-breasted mergansers

(*Mergus serrator),* osprey *(Pandion halioetus carolinensis),* white-throated sparrow *(Zonotrichia alnicollis),* and eider ducks *(Somateria mollisima).*

(3). Threatened and Endangered Species
There are no known instances of federally listed endangered species occurring at the park. Bald eagles once nested on the island, but have not been observed there since1993, according to information provided by Charles Todd, Maine Department of Inland Fisheries and Wildlife, Bangor, Maine.

(4) Geology
The FMU is located on, and along, the Saint Croix River that separates the United States from Canada at a point near where the River empties into the Bay of Fundy and on into the Atlantic Ocean. The entire area was formed by glacial action that took place during the last ice age. Elevations range from sea level to 130 feet above sea level at the highest point on the mainland portion of the FMU. The FMU is underlain with Red Beach Granite (Osberg et al. 1985). Age determination indicates this formation was laid down during the Acadian Orogeny. Sedimentary deposits laid down as the glaciers retreated from the area are also present in the FMU.
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(5). Soils
Soils consist of glaciomarine sand and clay that form a fine agricultural soil of fair quality, but is shallow and porous, which precludes the presence of springs or good wells. Soils on the island are highly erodable and maintenance of the existing tree/shrub cover types on the periphery of the grass portions of the island is essential in minimizing the potential for erosion. (re. *Natural Resource Inventory Study for Saint Croix Island International Historic Park, Final Report,* prepared November 1997, (Cronan, Kelly, Piampiano, *et al,* 1997)).

(6). Hydrology
The FMU is located within the tidal zone of the Saint Croix River Estuary. The tidal range between low and high tide is approximately 20 feet. There are no springs, wells, or wetlands in the FMU. River flows range from 1700 cubic feet per seconds (cfs) to 5200 cfs, depending on the time of year (re. *Natural Resource Inventory Study for Saint Croix Island International Historic Park, Final Report*, prepared November 1997, (Cronan, Kelly, Piampiano, *et al,* 1997)). The Saint Croix River has been adversely affected by high counts of coliform bacteria in recent decades, believed to be coming from sewage treatment plants, septic runoff, and non-point agricultural pollution on both sides of the boarder. This has led to a closure of clam harvesting and restrictions on swimming in the river.

Though Beaver Brook does not flow through the FMU, it crosses under U.S. Route 1 and empties into the cove bordering the mainland section of the FMU.

(7). Air Quality
The park is listed as a Class II air quality area under the terms of the 1990 Clean Air Act amendments. 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.

There is no major source of emissions in the immediate vicinity of the FMU. Significant regional sources of emissions within 60 miles of the FMU include a paper mill in Woodland, Maine, a flakeboard mill at St. Stephen, New Brunswick, and a fossil fuel power plant at Coleson Cove, New Brunswick. The two 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). The FMU's air quality is subjected to local motor vehicle and residential emissions and to haze during the summer months, when they are a problem throughout the entire New England area.

(8). Cultural Resources and Park Facilities

Cultural resources in the FMU are divided between Saint Croix Island and the mainland. Saint Croix Island contains an 1885 boathouse, a 1904 memorial tablet, and a small modern shed that 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 island also has a U.S. Coast Guard aid navigation light mounted on a steel tower.

The mainland portion of the FMU contains the McGlashan-Nickerson house, which is on the National Register of Historic Places, and the Lane-Robb house. Landscape features associated with the McGlashan house include an apple orchard and garden. There are also archeological remains of activities associated with 19th century granite and plaster industries, and a Native American site. The mainland portion also has park operations facilities that include an interpretive trail with panels and sculptures that describe the events of 1604 -1605, a mainland trail shelter overlooking the river and the island that houses a scale model depiction of the 1604-1605 French settlement as shown in Samuel Champlain's drawings, several picnic tables, a parking lot, a boat ramp, and a single vault toilet

Both the island and the mainland are of enduring cultural significance to the Wabanaki people, in particular the Passamaquoddy tribes. The Passamaquoddy use the island to this day.

As is common with cultural sites, artifacts can be found under the soil surface as well as above ground throughout the FMU. Archeological resources include the remains of a number of the French settlers on Saint Croix Island.

b. Fire Management Objectives

Because the entire park is designated as one FMU, a single set of objectives applies throughout the entire park. The objectives listed below are derived from the fire management goals for the park (see Section III. B.).

■ 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).

Conduct 100% of wildland fire operations so that they cause no injuries to the public and limit injuries to firefighters consistent with NPS Strategic Plan goals for employee safety.

Protect 100% of the park's cultural and natural resources and intrinsic values from unacceptable impacts resulting from wildland fire and fire suppression actions.

Employ strategies and tactics in 100% of wildland fire suppression actions that minimize costs and resource damage consistent with values at risk.

When monitoring reveals resource damage, timely and appropriate action will be taken in 100% of the cases to stabilize the resource and prevent further degradation.

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

100 % of wildland fires are rapidly detected, responded to, and effectively suppressed using the appropriate management response (AMR), so that all wildland fires are limited to less then 5 acres.

100% of wildland fire operations are conducted in accordance with NPS policies and guidelines.

Manage suppression actions so that rehabilitation costs are less than 25% of suppression costs.

■ 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.

100 % of known hazardous fuel accumulation that could contribute to the damage of primary park resources or the properties of neighboring landowners will be reduced by manual and mechanical treatments.

■ 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 maintain cooperative agreements with 100% of the appropriate state and local fire management organizations.

Review 100% of cooperative agreements annually to ensure that they are consistent with management and resource management goals.

■ 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.

Monitor 100% of wildland fire sites in accordance with NPS standards.

■ Integrate knowledge gained through natural resource research into 100% of future fire management decisions and actions.

Collect and enter data on 100% of wildland fires into national fire records databases in accordance with NPS fire management policy.

Review 100% of wildland fire occurrence in accordance with NPS policy.

Use 100% of the information gathered in the objectives above to inform, and, when appropriate, make changes in the Fire Management Plan and fire management activities.

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

Wildland fire management and preparedness will be considered in 100% of park planning activities.

100% of park preparedness activities will include providing park staff basic information on fire effects, and fire management, fire prevention, and the current park fire situation

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

Use minimum impact suppression techniques (MIST) in 100% of all wildland fire suppression operations to limit damage to cultural and natural resources, to park facilities, and to neighboring properties.

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

100% of park staff will be able to provide basic fire information to visitors or direct them to a park employee who is able to provide it.

When the fire danger is very high or extreme, park staff will contact at least 80% of park visitors with a fire prevention message through signage, handouts, interpretive activities, or personal contact. When wildland fires are burning within the park or on adjacent lands, 80 % of park visitors will be provided with information on the fire and fire effects.

95% of property owners immediately adjacent to the park will be informed of the wildland fire risk posed by living in the wildland urban interface and the steps that can be taken to minimize those risks

c. Management Considerations

These constraints, considerations, or decision criteria will influence all fire management activities within the fire management unit.

- All fire management actions will have firefighter and public safety as its top priority. All park firefighters will adhere to applicable NPS policy relating to the training, certification and performance of NPS wildland firefighters..
- All appropriate steps necessary to protect the park's cultural resources will be taken as long as those steps do not endanger firefighter and public safety.
- Bulldozers and other tracked vehicles will not be used in the park without prior approval of the superintendent.
- To ensure good relations with park neighbors, local organizations and governments, cooperating agencies and the public, every effort will be made to keep these parties informed about significant fire management actions that might impact them or their interests.

d. Historic Role of Fire

In Maine, mean wildland fire return intervals are typically long and 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. The historical fire frequency in the general vicinity of the mainland portion of Saint Croix is once every 100 to 200 years, and fires can burn with stand replacing severity (Schmidt, *et al*, 2002).

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 in the park 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. (NPS, 2004)

e. Wildland Fire Management Situation

(1). Historical Weather Analysis

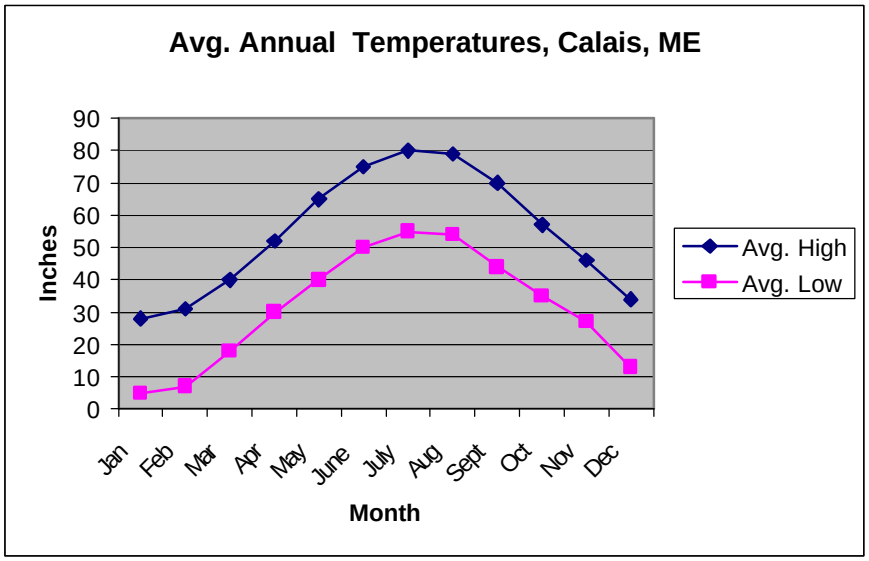
There is no local weather station available within the immediate area of the park. Weather information for Calais, Maine, is used as being representative of the weather that occurs in the park. Information includes average high and low temperatures, and rainfall. Climatological data is plotted below in Figure 3.

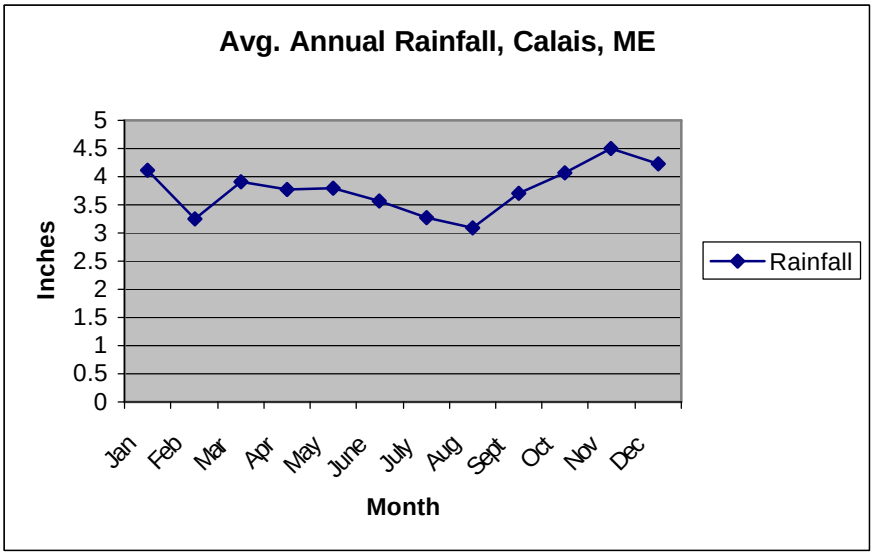
As is typical in the eastern portion of the United States, the average high temperature (80 F) occurs in July, with the coldest average temperature (5° F) occurring in January. Rainfall averages about 3.75 inches per month and is evenly distributed throughout the year.

The area experiences electrical storms with strong accompanying winds during frontal passages. Sufficient rain usually accompanies these lightning events to reduce the known incidence of lightning caused fires in the park to

zero. Humidity is typically moderate to high during the late spring and summer.

Figure 3 –Calais, Maine Climatic Data





(2). Fire Season

The fire season in the New England region is typically a split season, constituting a spring and a fall season. The fall fire season normally lasts from around the first killing frost until snow cover. The spring season begins when snow cover is gone and lasts until the new seasonal vegetation has achieved significant leaf growth. Grasslands may be subject to wildland fire at any time during the winter if snow is not covering the ground and an ignition source is introduced.

The spring season is typically the more active season with human-caused fires accounting for a majority of all suppression actions in the State of

Maine. Debris burning or arson causes more than half of all wildland fires within Washington County, where the FMU is located.

(3). Fuel Characteristics

Wildland fuels in the FMU generally fall into two National Fire Danger Rating System (NFDRS) models. Fuel Model L represents the typical short grass fuel model and is found principally on the island portion of the park. Approximately 13% of the FMU is made up of Fuel Model L. During dry periods this could be the fuel presenting the greatest risk to firefighters due to its potential for rapid rates of spread and longer flame lengths.

NFDRS Fuel Model H represents the tree/shrub type found principally on the mainland portion of the park. This fuel model is comprised of conifers with some hardwoods and makes up approximately 87% of the FMU. This fuel model would be expected to produce low to moderate rates of fire spread, except under extremely dry conditions. Flame lengths generally allow direct attack on the flaming front and pose less risk to properly trained and equipped firefighters.

(4). Fire Regime Alteration

Natural fire regimes are a general classification of the role fire would play across a landscape in the absence of modern human mechanical intervention, but including the influence of aboriginal burning. They are based upon the natural frequency and severity of fire in a particular landscape and are divided into five separate natural fire regimes.

The fire regime in the area of the park has been altered since settlement. Forest cover that was originally in the area was used for construction and fuel wood to satisfy the subsistence needs of the settlers, agriculture and local industry. As these uses declined, many areas within the FMU have reverted back to forest, but other areas have been maintained in grasslands, lawns and orchards. The natural fire regime for the FMU is Fire Regime IV, which represents the mature forests of the FMU as originally found by the first French settlers.

Table 2 illustrates the fire regimes as found in the Cohesive Strategy document.

Table 2 - Fire Regimes

Fire Regime Group	***Frequency (Fire Return Interval)***	***Severity***
I	0-35 years	Low severity
II	0-35 years	Stand replacement severity
III	35-100+ year	Mixed severity
IV	35-100+ year	Stand replacement severity
V	>200 years	Stand replacement severity

Fire regime condition classes (FRCC) are a classification of the amount of departure from the natural regime of a particular landscape. The FRCC in the FMU is Condition Class 2. Condition Class 2 occurs when there is a moderate level of departure from the natural (historical) regime of vegetation characteristics; fuel composition; fire frequency, severity and pattern, and other associated disturbances.

The natural fire regime in the FMU has been effectively removed from the landscape for at least the past 200 years and in some cases for the past 400 years. This is a result of both active wildland fire suppression and conversion of forested lands to agricultural lands and then to rural residential use. Since all wildland fires within the FMU and the surrounding area will continue to be fully suppressed due to the wildland/urban interface present, fire and its effects will continue to be excluded from its natural role across the landscape of the FMU

Table 3 illustrates the Condition Classes as found in the Cohesive Strategy document.

Table 3 - Condition Class Descriptions

Condition Class[1] Descriptions	
Condition Class	***Fire Regime***
Condition Class 1	Fire regimes are within an historical range and the risk of losing key ecosystem components is low. Vegetation attributes (species composition and structure) are intact and functioning within an historical range.
Condition Class 2	Fire regimes have been moderately altered from their historical range. The risk of losing key ecosystem components is moderate. Fire frequencies have departed from historical frequencies by one or more return intervals (either increased or decreased). This results in moderate changes to one or more of the following: fire size, intensity and severity, and landscape patterns. Vegetation attributes have been moderately altered from their historical range.

Condition Class[1] Descriptions	
Condition Class	***Fire Regime***
Condition Class 3	Fire regimes have been significantly altered from their historical range. The risk of losing key ecosystem components is high. Fire frequencies have departed from historical frequencies by multiple return intervals. This results in dramatic changes to one or more of the following: fire size, intensity, severity, and landscape patterns. Vegetation attributes have been significantly altered from their historical range.
[1]Current conditions are a function of the degree of departure from historical fire regimes resulting in alterations of key ecosystem components such as species composition, structural stage, stand age, and canopy closure. One or more of the following activities may have caused this departure: fire suppression, timber harvesting, grazing, introduction and establishment of exotic plant species, insects or disease (introduced or native), or other past management activities	

(5). Control Problems

Access to the islands of the FMU is extremely limited. There is no boat service to the islands. Firefighting personnel must access the islands by the NPS workboat that is kept at the park or by other small boats brought to the FMU by responding firefighters.

Structures within the FMU and on adjacent properties create a wildland/urban interface risk involving both the protection of life and property and may alter the strategies and tactics available to suppress a fire.

(6). Values to Protect

The primary values to be protected include the FMU's cultural and archeological resources, the park infrastructure that supports park operations, the U.S. Coast Guard navigational aid, and the properties of adjacent landowners. The highly erodable soils of the islands need special protection during suppression and prescribed fire research operations to prevent the loss of archaeological resources and the physical characteristics of the islands.

IV. WILDLAND FIRE MANAGEMENT PROGRAM COMPONENTS

A. GENERAL IMPLEMENTATION PROCEDURES

The park's 1998 General Management Plan (GMP) guides the wildland fire management program at Saint Croix Island International Historic Site. The basic goals of the GMP are to preserve natural and cultural resources, provide for safe public use and enjoyment, work cooperatively with other interested parties, and ensure organizational effectiveness.

The direction provided by the General Management Plan indicates that prompt, aggressive suppression actions, with due consideration to firefighter and visitor safety and resource protection, will be the normal response to all wildland fires within the park.

A Wildland Fire Implementation Plan (WFIP) will be initiated for all wildland fires. In the event of a wildland fire, the incident commander will conduct a *Stage I: Initial Fire Assessment*, as well as all other required documentation. Because the entire park is in a single FMU that calls for full suppression of all fires, the WFIP requirement for completing the *Decision Criteria Checklist* as a part of the Stage I analysis is considered met. The *Fire Situation* assessment, however, will still be completed with the assistance of the park fire management officer at a later date.

B. WILDLAND FIRE SUPPRESSION

1. Potential Fire Behavior

The following general statements can be made for fires in these particular fuel types:

Fuel Model L- represents areas dominated by grass or glasslike vegetation averaging 1.0 foot in height. This would include the grasses found within the park. A spread rate of 78 chains/hour (5,148 feet/hour) with flame lengths of 4 feet is possible under moderate conditions (a midflame windspeed of 5 miles/hour and a moisture contents of 8%).

Fuel Model H- represents areas dominated by mature conifer stands with some hardwoods and a closed canopy. This would include the forested areas found within the park. The principal fuels available for burning in this fuel model are the compacted litter layer and the dead and downed twigs and branches found on the surface. A spread rate of 1.6 chains/hour (106 feet/hour) with flame lengths of 1.0 foot is possible under moderate conditions (a midflame windspeed of 5 miles/hour, a dead fuel moisture contents of 8%, and a live fuel moisture of 100%).

2. Preparedness Actions

"Preparedness" refers to activities that lead to a safe, efficient, and cost-effective fire management program in support of land and resource management objectives through appropriate planning and coordination. Preparedness includes planned activities for the development and implementation of the wildland fire management program. These activities include staffing, training, fire prevention activities, education, provision and maintenance of support facilities, purchase of and contracting for equipment, supplies, support, planning and coordination, policy development and oversight, research, and interagency coordination.

a. Fire Prevention, Education, and Community Assistance

The objectives of the park's fire prevention program are to prevent human caused wildland fires and to minimize damage to park resources and adjoining properties. A detailed fire prevention plan is currently being developed for the park. When completed, the plan will be added as an appendix to the FMP.

The program of public education regarding wildland fire prevention, potential fire benefits and dangers will be conducted as appropriate to help support the FMP goals. Visitor contacts, bulletin board materials, handouts, messages in interpretive programs and specific interpretive programs may be used to increase visitor and park neighbor awareness of fire hazards and benefits. On-site wildland/urban interface assessments of adjoining structures utilizing Firewise concepts and standards may be conducted for adjoining landowners. The Acadia National Park fire prevention specialist also serves as the Saint Croix Island International Historic Site fire prevention specialist and is responsible for the park's fire prevention program.

Park employees will be provided with information about fire prevention, the wildland/urban interface, the objectives of the fire management program, and the dangers and benefits of prescribed fire and wildland fire. Employees will be kept informed about changes in the fire situation throughout the fire season.

The park's fire prevention and education program may be implemented in conjunction with other fire management and public safety agencies, including the Calais Fire Department, the Maine Forest Service, and the U.S. Fish and Wildlife Service to increase awareness of fire prevention, develop understanding of the dangers and benefits of fire, protect human life and property, minimize risk to the wildland/urban interface, and prevent damage to real property and cultural and natural resources.

Assistance to the Calais Fire Department may be provided through the NPS Rural Fire Assistance Program. This program provides grants up to $20,000 per year per department for the purchase of wildland fire equipment and supplies and for wildland fire related training. The Acadia National Park fire management officer administers this program for the park.

b. Annual Training

Departmental of Interior policy requires that all Federal personnel engaged in wildland fire suppression and prescribed fire duties meet the standards set by the National Wildfire Coordinating Group (NWCG, *PMS-310-1*). The park will conform strictly to this policy and the requirements of the NPS wildland fire management qualification and certification system.

Annual firefighter refresher training, emphasizing safety, will be made available to park staff as appropriate. The Acadia National Park fire management officer will annually assess the current qualifications of the park's fire personnel. From this assessment, training needs for those employees will be determined. Training will be obtained in the most cost-effective manner, either in-house or through approved interagency training courses. Qualified instructors will be utilized for all courses.

Park staff will work with the local fire department and other agencies with fire management and public safety responsibilities to identify training needs, conduct

joint training, and participate in joint raining exercises as appropriate in order to improve response and coordination between the participating agencies.

c. Readiness

Since the Calais Fire Department provides all initial attack on wildland fires in the park, the NPS does not maintain fire suppression equipment at the park. Annually, prior to the spring fire season, the Acadia National Park fire management officer will review the cooperative agreement with the Calais Fire Department and amend it as necessary.

Park staff will work annually with the local fire department and other agencies with fire management and public safety responsibilities to establish and maintain common protocols and procedures and develop strategies for safer and more efficient fire management operations

d. Fire Weather and Fire Danger

(1). Weather Station

There is no weather station in the park. Fire weather related data and information can be obtained from the fire weather station (#MWR M1) located 8 miles away at the Moosehorn National Wildlife Refuge in Baring, Maine. The station information can be assessed at the website address; "http://www.met.utah.edu/cgi-bin/droman/meso_base.cgi?stn=MWRM1&time=GMT".

(2). Fire Danger

Specific National Fire Danger Rating System (NFDRS) are not generated for the park. The park utilizes the daily fire danger rating generated by the Maine Forest Service for Zone 4, in which the park is located. This rating can be obtained at the website address; "http://www.state.me.us/doc/mfs/firedanger/fire.shtml".

The Maine Forest Service fire danger rating is based upon the older "build-up index" system. It does not use the current NFDRS 78 system.

The adjectives used in the Maine Forest Service fire danger system are:

Low: Fuels do not ignite readily from small firebrands, although a more intense *-heat-* source, such as lightning, may start many fires in duff or punky wood. Fires in open cured grassland may burn freely a few hours after rain, but woods fires spread slowly by creeping or smoldering, and burn in irregular fingers. There is little danger of spotting.

Moderate: Fires can start from most accidental causes, but with the exception of lightning fires in some areas, the number of starts is generally low. Fires in open-cured grassland will burn briskly and spread rapidly on windy days. Woods fires spread slowly to moderately fast. The average fire is of moderate intensity, although heavy concentrations of fuel, especially draped fuel, may burn hot. Short-distance spotting may occur, but is not persistent. Fires are not likely to become serious, and control is relatively easy.

High: All fine dead fuels ignite readily and fires start easily from most causes. Unattended brush and campfires are likely to escape. Fires spread rapidly and short-distance spotting is common. High-intensity burning may develop on slopes, in concentrations of fine fuel. Fires may become serious and their control difficult, unless they are hit hard and fast while small.

Very High: Fires start easily from all causes, and immediately after ignition, spread rapidly and increase quickly in intensity. Spot fires are a constant danger. Fires burning in light fuels may quickly develop high-intensity characteristics; such as, long-distance spotting and fire whirlwinds, when they burn into heavier fuels. Direct attack at the head of such fires is rarely possible after they have been burning more than a few minutes.

Extreme: Fires under extreme conditions start quickly, spread furiously, and burn intensely. All fires are potentially serious. Development into high-intensity burning will usually be faster and occur from smaller fires than in the very high danger class. Direct attack is rarely possible, and may be dangerous, except immediately after ignition. Fires that develop headway in heavy slash or in conifer stands may be unmanageable while the extreme burning condition lasts. Under these conditions, the only effective and safe control action is on the flanks until the weather changes or the fuel supply lessens.

The fire behaviors described above are a general description. Fire behavior for specific fuel models may vary significantly.

e. Step-up Plan

The following activities for park staffing will be implemented based upon the fire weather forecast.

Table 4 - Step-up Plan

Staffing Class	Maine Forest Service Fire Danger Adjective	Actions
1	Low	Normal Activity
2	Moderate	Normal Activity
3	High	Normal Activity
4	Very High	Information on the elevated fire danger may be provided to park visitors through signage, handouts and visitor contacts.
5	Extreme	Information on the elevated fire danger may be provided to park visitors through signage, handouts and visitor contacts. Appropriate fire suppression resources may be dispatched to the park from Acadia National Park to increase preparedness.

During periods of low, moderate, and high fire danger, normally programmed ONPS and FIREPRO funds will be used to fund preparedness activities. During periods of very high or extreme fire danger or fire severity, emergency preparedness FIREPRO funds may be used to fund increased fire preparedness activities.

3. Pre-attack Plan

   A pre-attack plan is not required since the NPS does not maintain fire suppression resources at the park. The Calais Volunteer Fire Department, in accordance with their own protocols and procedures and the cooperative agreement with the NPS, will undertake initial attack actions.

4. Initial Attack

   a. Initial Attack Priorities
   Priority in initial attack actions will be given to:
   - Firefighter and public safety
   - Protection of cultural and archaeological resources
   - Protection of adjoining wildland/urban interface areas.

   b. Initial Attack Response Criteria
   All wildland fires will be aggressively suppressed while providing for firefighter and public safety. MIST guidelines will be used in all initial attack actions. A containment strategy may be used for all or part of a fire if it helps to meet the initial attack priorities listed above. The Calais Fire Department will conduct all initial attack response.

   c. Confinement as an Initial Attack Suppression Strategy
   Confinement may be used as an initial attack strategy in those rare cases where firefighter safety or preserving cultural and archaeological resources prevents the use of more aggressive strategies. Examples of this include when wave conditions on the river prevent safe boat access to the island by firefighters or when more active suppression measures (i.e. digging fireline) might endanger cultural or archaeological resources.

   A confinement strategy may also be selected in the Wildland Fire Situation Analysis (WFSA) process when the fire is expected to exceed initial attack. When confinement is selected as an initial attack or extended attack strategy, the same management process applies as for wildland fire use decisions. A Wildland Fire Implementation Plan (WFIP) is prepared in stages as the fire dictates.

   A confinement strategy may be selected for initial or extended attack as long as it is not being used solely to meet resource management objectives. Resource benefits may be a by-product, but the strategy must be based upon the criteria listed above.

   d. Response Times
   Response times of the Calais Fire Department will normally range from 10 to 15 minutes. NPS firefighting resources at Acadia National Park would require a minimum of 3 hours to respond.

   e. Management Constraints
   Preferred suppression tactics to be used in the park include use of water or foam fire lines, in conjunction with natural barriers, to reduce damage potential from other

suppression actions. There are several management constraints to any suppression action:

- When fire lines must be constructed, techniques requiring the least ground disturbance (i.e. leaf blown lines, mowed lines, etc.) are preferred. In rare circumstances, when less ground disturbing techniques can't be used, the park superintendent or designee must authorize the use of bulldozers or heavy equipment in suppression action. Engines and other vehicles will be restricted from areas identified as potentially adversely affected by vehicle traffic, where rutting, soil compaction, or other resource damage could occur.
- Hand lines should be constructed only in areas where damage to known archeological and/or historic resources is not likely to occur.
- Suppression operations in sensitive natural areas identified in Natural Resource Inventories will be avoided to the greatest extent possible.
- Fire retardants will not be used.
- Class A foam will not be used within 25 feet of any water body.

f. Local Issues
Because of the small size of the park, it is expected that almost all fires will be suppressed by the Calais Fire Department within the first burning period, thus minimizing local issues. The park's cultural resource specialist will be notified immediately of any fire that impacts or may impact archaeological resources connected to the federally recognized Maine tribes. These include the Penobscot Nation, the Aroostook Band of Micmacs, the Houlton Band of Maliseet Indians, the Passamaquoddy Tribe - Pleasant Point, and the Passamaquoddy Tribe - Indian Township.

5. Extended Attack and Large Fire Suppression

a. Extended attack needs
Due to the small size of the park, few fires are expected to remain uncontrolled past the first burning period. Mop-up actions may continue into the next burning period. Extended attack activities should be minimal. Extended attack needs will be determined by the Calais Fire Department in consultation with the Acadia National Park fire management officer.

b. Implementation Plan Requirements
Because of the small size of the park, if an ignition is not controlled within the first burning period, the fire will become a multi-agency, multi-jurisdictional incident. At this point qualified NPS staff from Acadia National Park should be on site to assist in the preparation of the Wildland Fire Situation Analysis (WFSA) for review and approval. A WFSA will be reviewed for continued compliance or a new document completed, each day until the fire is contained using fire lines, or natural or other barriers that will stop fire spread.

An electronic version of a WFSA can be found at the U. S. Forest Service website at http://www.fs.fed.us/fire/wfsa/.

c. Complexity Decision
When a WFSA has been completed for use during the suppression operations in a second burning period, the fire will be considered to be an extended attack fire.

Transition to a Type II or Type I incident management team will occur if the WFSA indicates that the observed and potential fire behavior is beyond the ability of local and area firefighting resources to control. Due to the small size of the park, it is not expected that a wildland fire within the park would ever rise to the level of a fire requiring a Type II or Type I incident management team.

d. Delegation of Authority
If a fire is to be managed by an incident command team (ICT) from outside the park or the Calais Fire Department, a delegation of authority delineating the responsibilities of the ICT will be completed by the park superintendent and delivered to the incident commander prior to the team undertaking management of the incident. A sample delegation of authority may be found in Appendix E.

6. Exceeding The Existing Wildland Fire Implementation Plan (WFIP)

A WFIP has been exceeded when a fire cannot be suppressed during initial attack suppression actions, or when a prescribed fire becomes an escaped fire. Then, a Wildland Fire Situation Analysis must be developed. When completed, the WFSA will develop a new strategy by which the fire should be managed.

7. Minimum Impact Suppression Tactics (MIST)

Director's Order #18 states that: "Methods used to suppress wildland fires should minimize impacts of the suppression action and the fire, commensurate with effective control and resource values to be protected."

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 park 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.

8. Fire Rehabilitation

The only rehabilitation needs anticipated are those associated with fire line construction, mop-up activities, and hazard fuel treatment activities. Proper location of fire lines

should reduce the need for major rehabilitation work. Areas of disturbance will be restored as soon as possible after the completion of fire suppression activities. Areas denuded of vegetation will be treated with standard erosion control techniques and reseeded with native grasses and forbs. All sites where hazard fuel treatment work creates soil disturbance will be rehabilitated to pre-disturbance conditions, to the extent practicable.

See Section IV. F. for a more extensive discussion of fire rehabilitation and restoration in the park.

9. Records and Reports

All fire-related records and reports required will be completed, entered into the appropriate databases, and retained as described in DM 910, DO-18 and RM-18. All required location data will be collected by GPS and will be transferred to the Acadia National Park GIS software system for inclusion in the appropriate Saint Croix Island IHS data sets.

Table 5 - Checklist of Wildland Fire Documentation

Checklist Of Wildland Fire Documents And Reports		
Document	**Frequency**	**Responsible Party**
Di-1202; Individual Fire Report	**Each Incident**	**Acadia National Park Fire Management Officer (ACAD FMO)**
Wildland Fire Situation Analysis (WFSA)	**As Needed**	**Incident Commander & ACAD FMO**
Fire Weather	**Daily In Season**	**ACAD FMO**
Fire Situation Report	**As Needed**	**ACAD FMO**
Fire Danger	**Daily In Season**	**ACAD FMO**
Fire Complexity Analysis	**Per Incident As Needed**	**Incident Commander & ACAD FMO**
Pre Season Risk Analysis	**Annually**	**ACAD FMO**
Pre-Attack Plan	**Annually**	**ACAD FMO & Chief, Calais Fire Department**
Wildland Fire Critique	**Each Incident**	**ACAD FMO & Incident Personnel**

C. WILDLAND FIRE USE

Due to the small size of the park, the close proximity of adjoining properties, the lack of on-site fire management personnel and the lack of natural fire ignitions, wildland fire use is not considered in this plan and will not be discussed further.

D. PRESCRIBED FIRE

While the use of prescribed fire as a management tool in the park is not part of this fire management plan, its future use as a management tool in park fire management operations will be researched 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 (burn test plots on the island). This research will determine if prescribed fire can be a useful and beneficial

management tool for maintaining grass fields in the park. During prescribed fire research burns, data will 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.

Prescribed fire research burns will comply with all applicable NPS policies and procedures related to conducting prescribed fires.

E. NON-FIRE FUEL TREATMENT APPLICATIONS

The park's long-term fuels management program includes non-fire treatments that benefit landscape management, hazard fuel reduction, and wildland/urban interface protection.

The goals of the fuels management program are to:

- Reduce fuel loading to reduce risk of wildland fire ignition, reduce the intensity of wildland fires that do occur, and reduce potential fire damage to park resources
- Ensure that real property adjacent to the park and within the park are protected from the impacts of wildland fire
- Ensure that natural and cultural resources and values to be protected within and adjacent to the park are appropriately protected from the impacts of wildland fire. Resources that will receive special attention include threatened and endangered species, sensitive habitats, erosive soils, archeological resources, historic structures, and historic landscapes
- Aid in the preservation and maintenance of the historic landscape and structures

Manual and mechanical hazard fuel treatments (e.g. chainsaws, mowers, and brush hogs) will 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 will be reviewed and approved by the park's cultural resource specialist and natural resource specialist prior to implementation of those treatments.

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

Heavy concentrations of finer fuels (dead twigs, branches limbs, fallen tree tops, etc) will 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 should greatly reduce the potential for the start and spread of wildland fires within the park.

Defensible space around each of the park’s structures will 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 will be removed are 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 will be limbed to approximately 12 feet from the base of tree. These standards will be modified, where appropriate to maintain historical and culturally significant landscapes. Written prescriptions for these treatments will be developed by the Acadia National Park fire management staff and reviewed and approved by the park's cultural resource specialist and natural resource specialist prior to any treatment work around park structures.

1. Manual and Mechanical Treatments

   a. Annual Preparations

   Specific fuel treatment projects will be identified and developed by the Acadia National Park fire management staff.. Requests for project funding will be submitted to the NPS Fire Management Program Center in accordance with NPS fire management budgeting requirements. Implementation of funded projects will be managed by a project manager from the Acadia National Park fire management staff.. Completed projects will be reviewed upon completion to ensure accomplishment of the project objectives and the effective use of personnel and funding. Projects may be accomplished be by NPS personnel or by contract.

   b. Equipment and Seasonal Use Restrictions

   Equipment currently used in maintenance operations (hand tools, lawn mowers, and chain saws) may be used for treatments around park structures. Treatments (such as grass mowing) may be applied several times during the growing season. Treatment work may be restricted or postponed during wet periods to prevent vegetation damage and excessive soil disturbance. Any areas denuded of vegetation will be treated with standard erosion control techniques and reseeded with native grasses and forbs. Treatment work will only be conducted during daylight hours. Treatment work will not be conducted on weekends or Federal holidays. Written prescriptions for these treatments will be developed by the Acadia National Park fire management staff and reviewed and approved by the park's cultural resource specialist prior to any treatment work around park structures.

   Hand tools, lawn mowers, chain saws, and brush hogs may be used to reduce fine fuel loadings throughout the park, maintain cultural landscapes and create fuel breaks along selected boundaries of the park's mainland units. The same restrictions as listed in the paragraph above for fuel treatments around park structures will apply to these activities. Proposed treatment activities will be reviewed and approved by the park's cultural and natural resource specialists prior to the implementation of any treatment work.

   c. Monitoring Required

   Projects will be monitored during implementation by visual inspection. Completed projects will be monitored by visual inspection and photo documentation of the completed project.

   d. Format of Critiques

   The following items will be part of fuel treatment project critiques:

   - Were any unsafe acts noted?

- Were project objectives met?
- Was the project cost effective?
- What should be done differently to obtain desired results or to get better results?
- Was there any deviation from the project work plan? If so, why?
- Were weather conditions a factor in completing the project?
- Other problems and general comments.

e. Cost Accounting

All costs associated with an individual treatment project will be charged to the appropriate project account. Project expenditures will not exceed the authorized project funding amount. Project costs will be tracked by the Acadia National Park fire management staff and project cost documentation will be maintained at the Acadia National Park Fire Management Office.

All project contracts will be issued by the Acadia National Park contracting officer and will be supervised by the project manager as the contracting officer technical representative (COTR).

f. Reporting and Documentation Requirements

The following table lists the reports and other documents required for manual and mechanical fuel reduction operations.

Table 6 - Checklist of Non-Fire Treatment Documentation

Checklist of Non-Fire Fuel Treatment Documents and Reports		
Document	**Revision or Preparation Frequency**	**Responsible Party**
Project Funding Submission	**Annual**	**Acadia National Park Fire Management Officer (ACAD FMO)**
Project Plan	**Each Project**	**ACAD FMO**
Project Maps	**Each Project**	**Project Manager**
Notification Checklist	**Each Project**	**Project Manager**
Monitoring	**Each Project**	**Project Manager**
Unit Logs or Other Documentation	**Each Project**	**Project Manager**
Contracts	**Each Project**	**ACAD Contracting Officer & COTR (Project Manager)**
Project Critique	**Each Project**	**Project Manager**

All project documentation will be completed within 6 months of the completion of the project.

g. Annual Planned Project List

This list is found in Appendix H and will updated annually as projects are recommended and/or funded.

2. Other Applications

Herbicides and other chemical types of treatments will not be used in hazard fuels treatment projects.

F. EMERGENCY REHABILITATION AND RESTORATION

The park's wildland fire history shows a very limited occurrence of wildland fire in the park and the surrounding area. All of these fires have been quite small in size. All recent fires have been suppressed with water only and have not required rehabilitation of suppression actions.

The only rehabilitation needs anticipated are those associated with fire line construction, mop-up activities, and hazard fuel treatment activities. Proper location of fire lines should reduce the need for major rehabilitation work. Areas of disturbance will be restored as soon as possible after the completion of fire suppression activities. Areas denuded of vegetation will be treated with standard erosion control techniques and reseeded with native grasses and forbs. All sites where hazard fuel treatment work creates soil disturbance will be rehabilitated to pre-disturbance conditions, to the extent practicable.

Following are site-specific guidelines for immediate short-term rehabilitation of fire-affected areas in the park:

- Trash will be removed from the fire lines and staging areas.
- If water bars need to be installed to reduce erosion, they will be placed every 70-200 feet on slopes of 10 to 15%, 50-70 feet for 15-30%, and 30-50 feet for 30+% slope.
- Stumps will be cut within 3 inches of the ground.
- All snags or trees felled will be lopped to lie close to the ground, and the branches scattered.
- Rehabilitation will occur before suppression resources are released from the fire to the greatest extent possible.

Because of the historically low complexity and small size of fires in the park, long-term rehabilitation should not be necessary. If extensive emergency rehabilitation or long-term rehabilitation is needed to reduce the effects of a wildland fire in the park, The NPS can request appropriate funding through the Burned Area Emergency Rehabilitation (BAER) fund. The BAER fund is administered through the NPS Division of Fire and Aviation Management. The specifics of the policy can be found in 620 DM 3 DOI BAER Policy (2001). BAER project requests totaling $300,000 or less can be approved by the Regional BAER Coordinator. Submissions over this amount are reviewed at the regional level, and forwarded to the NPS Division of Fire and Aviation Management for approval. Requests for BAER funding must be made to the Regional Fire Management Officer within 72 hours of the date the fire is declared controlled. Should a Burned Area Emergency Rehabilitation (BAER) Team be required, an archeologist or cultural resource specialist from the park will be assigned as a member of the Team.

V. ORGANIZATIONAL AND BUDGETARY PARAMETERS

A. FIRE ORGANIZATION STRUCTURE

1. Park Superintendent

   The Acadia National Park superintendent is also the Saint Croix Island IHS superentendent. The park superintendent is responsible for the overall direction of the fire management and has final decision-making authority for all fire management operations. The park superintendent may delegate responsibility for fire management

operations to a designee. The park superintendent approves and signs all agreements pertaining to fire management activities at the park and approves burn plans, WFIPs and WFSAs.

2. Park Fire Management Officer

   The Acadia National Park fire management officer (FMO) also serves as the Saint Croix Island IHS fire management officer. The FMO is responsible for planning, implementation and management of all aspects of the park's fire management program.

3. Park Fire Management Staff

   The Acadia National Park Fire Management Office staff supports and supervises fire management activities at Saint Croix Island IHS. The Acadia National Park fire management staff provides fire management program planning and management, technical support, non-fire fuel treatment program and project management, record keeping, and all other support actions necessary to maintain fire management activities in the park, in accordance with NPS fire management policy as described in DO-18 and RM-18.

   The Acadia National Park Fire Management Office staff providing assistance to the park includes the assistant fire management officer, the fire program management assistant, the fire prevention specialist, and the lead firefighter.

B. FIREPRO FUNDING

Annual Federal wildland fire management appropriations provide NPS FIREPRO funding for necessary expenses for fire planning and oversight functions, along with budgeted activities necessary to prepare for the normal fire season, and for the development and implementation of the wildland fire emergency suppression, emergency rehabilitation, and hazard fuels reduction program.

The park is not a base funded FIREPRO park and does not have FIREPRO funded positions. FIREPRO funding is available for approved fire training, prevention, preparedness, suppression, prescribed fire and other fire related research, wildland/urban interface mitigation, hazard fuels treatment, and burned area emergency stabilization and rehabilitation projects. Related equipment, personal protective equipment and supplies may be acquired with FIREPRO funding. Financial grants may be provided to qualifying local fire departments through the Rural Fire Assistance Grant Program (RFA).

All FIREPRO funding requests are made by the park fire management officer.

C. FIRE ORGANIZATION STRUCTURE RELATED TO SITE ORGANIZATION

1. Park Maintenance Worker

   The park's maintenance worker will assist the with Acadia National Park fire management staff with implementing park fire management programs, including prevention, preparedness and step-up actions and non-fire fuel treatment projects. The maintenance worker will provide the Calais Fire Department with assistance in site inspections, planning and preparedness activities and suppression action. The maintenance worker will provide boat access to the park's islands by the fire management staff and the Calais Fire Department as needed.

2. Park Interpretive Ranger

The park's interpretive ranger will assist the Acadia National Park fire prevention specialist with park fire prevention and education programs, public information activities and step-up actions.

3. Park Cultural Resource Specialist

The Acadia National Park cultural resource specialist serves as the cultural resource specialist for the park and provides technical assistance to the park's fire management program.

4. Park Natural Resource Specialist

The Acadia National Park botanist serves as a natural resource specialist for the park and provides technical assistance to the park's fire management program.

5. Park Environmental Compliance Coordinator

The Acadia National Park environmental compliance coordinator serves as the compliance specialist for the park and provides technical assistance to the park's fire management program.

6. Administrative Support

The administrative staff for Acadia National Park provides administrative support for all aspects of park operations. They will provide assistance in procuring fire management supplies and equipment, and will be responsible for proper documentation of personal services relating to fire management activities. The Acadia National Park contracting officer will administer all fire management related contract activities for the park.

D. WILDLAND FIRE USE CERTIFICATION

Wildland fire use is not authorized under this plan for use in the park.

E. INTERAGENCY COORDINATION

The Acadia National Park FMO maintains a good working relationship with local partners in the vicinity of the park, including the Calais Fire Department, the Maine Forest Service, the U.S. Fish and Wildlife Service, and Parks Canada. The FMO also works with the park's cultural resource specialist to keep the federally recognized Maine tribes apprised of any fire management operations or activities that affect their interests in the park.

F. KEY INTERAGENCY CONTACTS

Key contacts for fire management activities in the park are found in Table 7.

Table 7 - Key Contacts

Calais Fire Department	207-454-7400
Calais Police Department	207-454-2751
Washington County Sheriff	207-255-4422
Washington County Emergency Management	207-255-3931
Maine Forest Service	207-434-2621

Maine State Police	207-255-6125
U.S. Fish & Wildlife Service	207-827-6138
Acadia National Park FMO	207-288-8780
NPS Regional Fire Management Officer	617-223-5067

G. FIRE-RELATED AGREEMENTS

A wildland fire management agreement is in place with the Maine Forest Service. An agreement with the Calais Fire Department is being developed. A list of agreements will be placed in Appendix E.3 as they are developed. Copies will be maintained in the Acadia National Park Fire Management Office.

Through an interpark agreement with Acadia National Park, the park is a member of the North Country Area Fire Management Park Group (NOCOPG). NOCOPG is comprised of 11 NPS units in Northern New England and New York State. The Acadia National Park FMO serves as the North Country Area FMO. The Area FMO coordinates fire management needs between the North Country Area parks and with the NPS Northeast Region Fire Management Office, the Eastern Interagency Coordination Center (EICC) and the Northeastern Fire Coordination Center (NECC

VI. MONITORING AND EVALUATION

A. SHORT AND LONG TERM MONITORING

Non-fire fuel treatment projects will be monitored during implementation by visual inspection. Completed projects will be monitored by visual inspection and photo documentation of the completed project. Prescribed fire research burns will be monitored for fire behavior during burns, and for short and long-term impacts to vegetation and soils.

B. FIRE MONITORING HANDBOOK

This handbook, developed by the National Park Service (U.S. NPS, 2001) outlines protocols for monitoring fire weather, behavior and effects, and describes in detail all aspects of a comprehensive, state of the art monitoring program. The protocols in this handbook will be used for photo documentation of non-fire fuel treatment projects and for monitoring prescribed fire research burns within the park.

C. MONITORING PLAN

There is no formal monitoring plan established for Saint Croix Island IHS. See Section VI. B., above.

VII. FIRE RESEARCH

A. PREVIOUS AND ONGOING FIRE RELATED RESEARCH

There has been no specific fire related research undertaken in the park

B. FIRE RESEARCH NEEDS

The use of prescribed fire as a management tool in maintaining grasslands in the park will be investigated. The results of this research will determine whether or not prescribed fire is used as a management tool during future fire management planning cycles.

VIII. PUBLIC SAFETY

A. ISSUES AND CONCERNS

The primary concern is for firefighter and public safety. Private residences adjacent to the park are located in wildland/urban interface areas. Protective measures need to be undertaken to mitigate the potential risks associated with these areas during fires. Evacuating residents in these areas may also be necessary during a wildland fire. Smoke from wildland fires may impact visibility on U.S. Route 1 and other local roads. Boat access to the islands poses risks to firefighters. A wildland fire on the islands may require evacuation of park visitors on the islands and security measures to prevent public access to the islands during a wildland fire.

B. MITIGATION

In order to make NPS employees and the general public aware of potential wildland fire hazards, the following mitigation measures will be considered:

- Firefighter and public safety will be the highest priority of all fire management activities;
- Hazard fuels loadings within the park and adjacent to park structures will be reduced and boundary fuel breaks will be created and maintained;
- Information will be provided to park neighbors concerning steps they can take to mitigate the risk to their buildings from wildland/urban interface fires.
- Warning notices of potential dangers from wildland fires may be posted at park access points or visitor contact points;
- Portions of the park may be temporarily closed to public use during wildland fires and periods of elevated fire danger;
- Local law enforcement agencies will be notified of any potential for reduced visibility on adjacent roads and highways from wildland fires in the park;
- Safety briefings will be conducted for NPS personnel prior to participation in wildland fire management activities;
- All fire personnel will be reminded of the "18 Situations That Shout Watch Out" and will be expected to comply with the "10 Standard Fire Orders".

IX. PUBLIC INFORMATION AND EDUCATION

The goals of the park's fire information and education program are to:

- Provide timely information to the public, cooperators, government agencies, and others on fires and fire use within and adjacent to the park
- Reduce the incidence of human-caused fires
- Interpret the role of wildland fire, the application of prescribed fire and the use of wildland fire to achieve resource management objectives
- Provide information on the wildland/urban interface and mitigation measures for minimizing the wildland/urban interface risk.

A. CAPABILITY AND NEEDS

The Acadia National Park fire prevention specialist has the principal responsibility for conducting fire information and education activities in the park. The park interpretive ranger will assist the fire prevention specialist in conducting these activities.

General fire prevention messages will be provided to the public and park neighbors through a combination of press releases, the park website, fire prevention programs, posters, brochures, exhibits and signs. Interpretive exhibits and programs will include fire management information whenever opportunities allow.

A program of assistance to adjacent landowners will be developed to provide information on wildland/urban interface fire mitigation techniques. As part of this program, landowners will be offered an opportunity to have their properties evaluated by park fire management staff. These evaluations will identify potential interface risks to the property and provide the landowner with a list of mitigation measures that can be implemented to reduce those risks to their property.

B. PUBLIC INFORMATION STEP-UP ACTIVITIES

During periods of elevated fire danger (very high or extreme) and fire severity, additional actions may be taken to provide the public with information related to the elevated fire danger.

During a wildland fire burning in the park, the following guidelines will be implemented as time and staffing allows:

- Timely and accurate information will be provided to local media outlets and the public regarding the status of any fire suppression efforts being undertaken
- Adjacent landowners will be notified when a wildland fire in the park is a threat to adjacent properties.
- Notices of any emergency park closures will be posted at park access points and communicated to local media outlets.

X. PROTECTION OF SENSITIVE RESOURCES

A. CULTURAL RESOURCES

1. Resources

Cultural Resources at the park are divided between Saint Croix Island and the mainland. Saint Croix Island contains an 1885 boathouse, and a 1904 memorial tablet. 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 (NPS owned) and the Pettegrove-Livingstone house and garage (privately owned but within the park's legislative boundary), both of which are on the National Register of Historic Places. 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.

2. Mitigation

Hazard fuel reduction projects will be developed to reduce fire risk around historic structures. In all locations, every effort will be made to avoid damage to identified resources during project operations and fire suppression actions. The park cultural resource specialist will be consulted whenever cultural and archaeological resources are involved. Protection of these resources will be given priority during fire suppression operations. Class A foam may be used to reduce the risk of damage to these resources.

B. NATURAL RESOURCES

1. Resources

The soil on the islands and part of the mainland unit of the park consists of a fine-grained, well-drained sandy loam that is susceptible to erosion. 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 unit of the park. No threatened and endangered (T&E) species are known to inhabit the park at this time, (re. *Saint Croix International Historic Site*, General Management Plan, 1998).

2. Mitigation

MIST principles will be applied in all fire suppression operations to minimize the potential of soil erosion and vegetative cover loss. Disturbed areas will be rehabilitated. If plantings are required for rehabilitation, only native species will be used.

C. INFRASTRUCTURE

1. Improvements

There are several improvements in the park. On the mainland, these facilities include a self-guided tour that 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 life-size bronze sculptures. A trail shelter on the tour overlooks the river and the island and houses a scale model that depicts the 1604-1605 French settlement as shown in Samuel Champlain's drawings. Other faculties and improvements on the mainland include several picnic tables, a boat ramp, a single vault toilet, and the two historic houses mentioned in Section X. A. above and which are used for park operations,.

On Saint Croix Island, the NPS has a small shed housing maintenance equipment and the U.S. Coast Guard maintains a marine aid to navigation light mounted on a steel tower.

2. Mitigation

Hazard fuel reduction projects will be developed to reduce the risk of wildland fire to these facilities and improvements. Protection of these improvements will be given priority during fire suppression operations. Class A foam may be used to reduce the risk of damage to these improvements.

XI. FIRE CRITIQUES AND ANNUAL PLAN REVIEW

A. INTRODUCTION

1. Scope

   All wildland fires and fire-related incidents will be reviewed.

2. Reviews

   Reviews are conducted for one or more of the following purposes:

   a. Examine the progress of an on-going fire incident and confirm effective tactical decisions or correct deficiencies.

   b. Identify new or improved fire management procedures, techniques or tactics.

   c. Compile consistent and complete information to improve or refine site, regional or national fire management programs.

   d. Examine fire-related incidents in order to determine cause(s), contributing factors, and where applicable, recommend corrective actions. If negligence is indicated, the circumstances will be reported and investigated in accordance with applicable regulations, policies, or guidelines.

   e. Determine the cost effectiveness of fire management activities.

3. Authority

   The authority to convene a formal fire review rests with the park superintendent, the regional director for the Northeast Region, or the associate director for visitor and resource protection.

4. Incident Types

   All wildland fire incidents that result in human entrapment, fatalities, or serious injuries, or incidents with the potential for such results, will be investigated and reviewed.

5. Purpose

   All reviews will be conducted as constructive critiques aimed at determining the facts related to the specific fire or fire management activity. The review will identify commendable actions, techniques, and decisions, as well as areas that need improvement. Reviews are intended to resolve operational issues, not impose punitive actions.

B. FIRE REVIEWS

1. "Hotline" Review

   The purpose of the hotline review is to examine the progress of an on-going fire incident, regardless of size. The review will provide a confirmation of the decisions being made daily in the Wildland Fire Situation Analysis or determine where the decision process has been faulty and what corrective actions are needed.

The "hotline" review is normally conducted by the park FMO (or an official who has designated fire program management responsibilities) in conjunction with the incident commander on the fire.

These reviews require no special reporting. Documentation of "hotline" reviews will be included in the normal fire report narrative.

2. Incident Management Team (IMT) Closeout and Review

   The park superintendent will conduct a closeout review with any Type II or Type I incident management team (IMT) assigned to a fire in the park prior to their release from that fire incident. The purpose of this review is to ensure complete transition of the incident management back to the unit and to evaluate the status of any remaining incomplete fire business. RM 18, Chapter 13, Exhibit 1 contains a sample of a Close-Out Review with an incident management team.

3. Park Level Review

   The park superintendent, or their designated representative, will conduct a park level review of all fire incidents. Informal fire reviews for low complexity wildland fires will be conducted by the Acadia National Park FMO. Formal reviews may be conducted for more complex fire incidents as determined by the park superintendent.

   The purpose of the review is to provide the park superintendent with information to recognize commendable actions and/or take needed corrective action(s). Costs associated with the review will be charged to the account assigned to the fire, with the approval of the regional fire management officer. A copy of the complete report will be sent to the regional fire management officer, who will review it and, if appropriate, forward a copy to the Fire Management Program Center.

4. Regional Level Review

   A regional level review may be conducted for any fire that:

   a. Crosses a park's boundary into another jurisdiction without the approval of an interagency agreement.

   b. Results in adverse media attention.

   c. Involves serious injury to 1 or 2 personnel, significant property damage, or an incident with potential for such results.

   d. Results in controversy involving another agency.

5. National Level Review

   A national level review may be conducted for any fire that involves Service wide or national issues, including:

   a. Significant adverse media or political interest.

   b. Multi-regional resource response.

   c. A substantial loss of equipment or property.

   d. A fatality, or multiple, serious fire-related injuries (3 or more personnel).

e. Any other fires that the associate director for visitor and resource protection , wants reviewed.

6. Entrapment and Fire Shelter Deployment Review

Fire shelter deployment is defined as the use of a fire shelter for its intended purpose in any situation other than training. Entrapments and fire shelter deployments will be reviewed in order to gather complete and accurate information to determine the reasons for the deployment. All entrapments and fire shelter deployments will be reported immediately to the regional fire management officer. All entrapments and fire shelter deployments will be investigated as soon as possible after the deployment incident.

C. PROGRAM REVIEWS

1. Operations Evaluations

Operations evaluations of the park may include review of fire management program to assure compliance with established Service standards.

2. Annual Fire Program Review

The park superintendent will convene an ad-hoc team to review park fire activity during any year in which significant, unusual or controversial fire activity occurs. The review team will analyze the reports from any other reviews to determine what, if any, operational changes should be initiated. The review team will develop findings and recommendations and establish priorities for actions.

3. FIREPRO Review

The NPS Fire Management Program Center may conduct an audit of the park's fire management program and use of FIREPRO funds. This review will be completed on a schedule set by the Fire Management Program Center.

XII. CONSULTATION AND COORDINATION

The following individuals and groups were involved in the preparation and review of this FMP.

The Mangi Environmental Group

- Rebecca Whitney, Project Manager
- Malcolm Gramely, Wildland Fire Management Consultant

National Park Service – Saint Croix Island International Historic Site

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

XIII. APPENDICES

APPENDIX A

A. REFERENCES CITED

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Cultural Resource Management references
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Endangered Species Act of 1973 (http://endangered.fws.gov/esa.html)

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National Park Service RM-18, Wildland Fire Management
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APPENDIX B

B. DEFINITIONS

A consistent list of terms and their definitions has been developed and approved by the NWCG. This list of defined terms includes terms obsolete under the new policy. Additional terms used in this reference guide but not defined by NWCG are from the Fire Effects Information System and other sources. The sources may be found in the References Cited (Appendix A).

Appropriate Management Response – Specific actions taken in response to a wildland fire to implement protection and fire use objectives. This term is a new term that does not replace any previously used term.

Backfire – A fire set along the inner edge of a fire line to consume the fuel in the path of a fire or to change the fire's convection column.

BI – Burning Index. A number related to the contribution that fire behavior makes to the amount or effort needed to contain a fire in a particular fuel type within a rating area. An Index for describing Fire Danger.

Climax – A biotic community that is in equilibrium with existing environmental conditions and represents the terminal stage of an ecological succession (Smith 2000).

Cover – The proportion of ground covered by the aerial parts of individuals of a species, usually expressed as a percentage (Grieg-Smith 1983). Total cover for all species on a site can exceed 100%. However, TOP-COVER, the proportion of ground for which a species provides the uppermost cover, cannot exceed 100% (Grieg-Smith 1983). Mueller-Dombois and Ellenberg (1974) consider basal area a special kind of "cover," but FEIS does not usually use COVER in this way.

Crown Fire – Fire that burns in the crowns of trees and shrubs. Usually ignited by a surface fire. Crown fires are common in coniferous forests and chaparral-type shrublands (Brown 2000).

Direct Effects of Fire – Described in FEIS plant species summaries under FIRE EFFECTS; IMMEDIATE FIRE EFFECT ON PLANT and DISCUSSION AND QUALIFICATION OF PLANT RESPONSE.

Duff – Partially decomposed organic matter lying beneath the litter layer and above the mineral soil. Includes the fermentation and humus layers of the forest floor (02 soil horizon) (Brown 2000).

Ecosystem – An interacting system of interdependent organisms.

Fire Duration – The length of time that combustion occurs at a given point. Fire duration relates closely to downward heating and fire effects below the fuel surface as well as heating of tree boles above the surface.

Fire Exclusion – The policy of suppressing all wildland fires in an area (Smith 2000).

Fire Frequency = Fire Occurrence – Number of fires per unit time in a specified area (McPherson and others 1990).

Fire Interval – Time (in years) between two successive fires in a designated area (i.e., the interval between two successive fire occurrences); the size of the area must be clearly specified (McPherson and others 1990).

Fire Management Plan (FMP) – A strategic plan that defines a program to manage wildland and prescribed fires and documents the Fire Management Program in the approved land use plan. The plan is supplemented by operational plans such as preparedness plans, preplanned dispatch plans, prescribed fire plans and prevention plans.

Fire Management Unit (FMU) – 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. FMU's are delineated in Fire Management Plans (FMP). These units may have dominant management objectives and pre-selected strategies assigned to accomplish these objectives.

Fire Regime – Describes the patterns of fire occurrence, size, and severity - and sometimes, vegetation and fire effects as well - in a given area or ecosystem (Agee 1994, Mutch 1992, Johnson and Van Wagner 1985). A fire regime is a generalization based on fire histories at individual sites. Fire regimes can often be described as cycles because some parts of the histories usually get repeated, and the repetitions can be counted and measured.

Under current Federal policy and planning standards, a fire regime is expected to occur in one of five categories based on fire return interval and severity of burn.

Fire Severity – Degree to which a site has been altered or disrupted by fire; also used to describe the product of fire intensity and residence time (McPherson and others 1990, Agee 1994, Rowe 1983).

Fire Use – The combination of wildland fire use and prescribed fire application to meet resource objectives

Fire line Intensity – The rate of heat release per unit time per unit length of fire front. Numerically, the product of the heat of combustion, quantity of fuel consumed per unit area in the fire front, and the rate of spread of a fire, expressed in kW/m (McPherson and others 1990).

Flame Length – The length of flames in a fire front measured along the slant of the flame, from the midpoint of its base to its tip. Flame length is mathematically related to fire line intensity and tree crown scorch height (Brown 2000).

FMO – Fire Management Officer.

Fuel – Fuel is comprised of living and dead vegetation that can be ignited. It is often classified as dead or alive and as natural fuels or activity fuels (resulting from human actions, usually from logging operations). Fuel components refer to such items as downed dead woody material by various size classes, litter, duff, herbaceous vegetation, live foliage etc. (Brown 2000).

Fuel Loading – The weight per unit area of fuel, often expressed in tons per acre or tonnes per hectare. Dead woody fuel loadings are commonly described for small material in diameter classes of 0 to 1/4-, 1/4 to 1-, and 1 to 3-inches and for large material in one class greater than 3 inches (Brown 2000).

Fuel Moisture – percent or fraction of oven dry weight of fuel. It is the most important fuel property controlling flammability. In living plants it is physiologically bound. Its daily fluctuations vary considerably by species but are usually above 80 to 100%. As plants mature, moisture content decreases. When herbaceous plants cure, their moisture content responds as dead fuel moisture content, which fluctuates according to changes in temperature, humidity, and precipitation (Brown 2000).

FWS – U.S. Fish and Wildlife Service, Department of the Interior.

GIS – Geographic Information System

GMP – General Management Plan. A park document that describes broad management goals and objectives for NPS units.

Hazard Fuel – A fuel complex that, by nature, presents a hazard to socio-politico-economic interests when ignited. The hazard fuel condition can be mitigated through hazard fuel reduction.

Hazardous fuels – Those vegetative fuels which, when ignited, threaten: public safety, structures and facilities, cultural resources, natural resources, and/or natural processes. Also: fuels that permit the spread of wildland fires across administrative boundaries except as authorized by agreement, and fuel accumulations and arrangement may be within the natural range of variability and still be hazardous because of the proximity to values at risk.

Initial Attack – The first aggressive suppression action taken on a fire, consistent with firefighter and public safety, and values to be protected.

Initial Attack Incident Commander – Leader of first response fire suppression forces.

Litter – The top layer of the forest floor (01 soil horizon); includes freshly fallen leaves, needles, fine twigs, bark flakes, fruits, matted dead grass and other vegetative parts that are little altered by decomposition. Litter also accumulates beneath rangeland shrubs. Some surface feather moss and lichens are considered to be litter because their moisture response is similar to that of dead fine fuel.

Mean Fire Interval – Arithmetic average of all fire intervals determined, in years, for a designated area during a specified time period; the size of the area and the time period must be specified.

Mitigation Actions – Mitigation actions are considered to be those on-the-ground activities that serve to check, direct, or delay the spread of fire; and minimize threats to life, property, and resources. Actions may include mechanical and physical non-fire tasks, specific fire applications, and limited suppression actions. These actions will be used to construct firelines, reduce excesssive fuel concentrations, reduce vertical fuel continuity, create fuel breaks or barriers around critical or sensitive sites or resources, create "blacklines" through controlled burnouts, and to limit fire spread and behavior.

Mixed-Severity Fire Regime – Fire regime in which fires either cause selective mortality in dominant vegetation, depending on different species' susceptibility to fire, or vary between under story and stand replacement (Smith 2000).

MOA – Memorandum of Agreement

MOU – Memorandum of Understanding.

National Fire Danger Rating System (NFDRS) – A widely used system to predict several measures of fire probability and resistance to control.

Natural Fire – Fires ignited by natural means (usually lighting).

NFFL Model – One of the thirteen fuel models used to predict fire behavior using the fire spread formulas developed by Rothermel (1972).

NPS – National Park Service, Department of the Interior.

Organic Soils – Deep layers of organic matter that develop in poorly drained areas such as bogs, swamps, and marshes (Brown 2000).

Preparedness – Activities that lead to a safe, efficient and cost effective fire management program in support of land and resource management objectives through appropriate planning and coordination. This term replaces presuppression.

Prescribed Fire – Any fire ignited by management actions to meet specific objectives. Prior to ignition, a written, approved prescribed fire plan must exist, and National Environmental Protection Act requirements must be met. This term replaces management ignited prescribed fire.

Presettlement Fire Regime – The time from about 1500 to the mid- to late-1800s, a period when Native American populations had already been heavily impacted by European presence and before extensive settlement by European Americans in most parts of North America, before extensive conversion of wildlands for agricultural and other purposes, and before fires were effectively suppressed in many areas (Smith 2000).

Prescribed Fire Plan – A plan required for each fire application ignited by managers. It must be prepared by qualified personnel and approved by the appropriate Agency Administrator prior to implementation. Each plan will follow specific agency direction and must include critical elements described in agency manuals. Formats for plan development vary among agencies, although the content is identical.

Prescribed Fire Specialist – The staff specialist with primary duties of managing both the prescribed fire and Wildland Fire Used for Resource Benefit (where applicable) programs.

Prescription – Measurable criteria which define conditions under which a prescribed fire may be ignited, guide selection of appropriate management responses, and indicate other required actions. Prescription criteria may include safety, economic, public health, environmental, geographic, administrative, social or legal considerations.

Resource Management Plan (RMP) – Park planning document that describes resource management goals and objectives for NPS units.

Snag – A standing dead tree from which the leaves and some of the branches have fallen (Smith 2000).

Stand-Replacement Fire Regime – Fire regime in which fires kill or top-kill aboveground parts of the dominant vegetation, changing the aboveground structure substantially. Approximately 80 percent or more of the aboveground, dominant vegetation is either consumed or dies as a result of fires. Applies to forests, shrublands, and grasslands (Smith 2000).

Succession – The gradual, somewhat predictable process of community change and replacement leading toward a climax community; the process of continuous colonization and extinction of populations at a particular site (Smith 2000).

Suppression – see Wildland Fire Suppression

Surface Fire – Fire that burns in litter and other live and dead fuels at or near the surface of the ground, mostly by flaming combustion (Brown 2000).

T&E – Threatened and Endangered plants and animals. Also referred to as listed species.

Top-Kill – Kills aboveground tissues of plant without killing underground parts from which the plant can produce new stems and leaves (Smith 2000).

Total Heat Release – The heat released by combustion during burnout of all fuels, expressed in BTU per square foot or kilocalories per square meter (Brown 2000).

Understory Fire Regime – Fire regime in which fires are generally not lethal to the dominant vegetation and do not substantially change the structure of the dominant vegetation. Approximately 80 percent or more of the aboveground dominant vegetation survives fires. Applies to forest and woodland vegetation types (Smith 2000).

Urban Interface – See Wildland-Urban Interface.

Urban Intermix – Locating structures (homes, offices, and other developments) in wildland fuel complexes. Also known as wildland-urban interface.

USFS – United States Forest Service, U.S. Department of Agriculture.

Wildfire – An unwanted wildland fire. *This term was only included to give continuing credence to the historic fire prevention products. This is NOT a separate type of fire.*

Wildland Fire – Any non-structure fire, other than prescribed fire, that occurs in the wildland. This term encompasses fires previously called both wildfires and prescribed natural fires.

Wildland Fire Management Program – The full range of activities and functions necessary for planning, preparedness, emergency suppression operations, and emergency rehabilitation of wildland fires, and prescribed fire operations, including non-activity fuels management to reduce risks to public safety and to restore and sustain ecosystem health.

Wildland Fire Situation Analysis (WFSA) – The decision-making process that evaluates alternative management strategies against selected safety, environmental, social, economic, political, and resource management objectives.

Wildland Fire Suppression – An appropriate management response to wildland fire that results in curtailment of fire spread and eliminates all identified threats from the particular fire. All wildland fire suppression activities provide for firefighter and public safety as the highest consideration, but minimize loss of resource values, economic expenditures, and/or the use of critical firefighting resources.

Wildland Fire Use – The management of naturally-ignited wildland fires to accomplish specific, pre-stated, resource management objectives in pre-defined geographic areas outlined in Fire Management Plans. Operational management is described in the Wildland Fire Implementation Plan (WFIP). Wildland fire use is not to be confused with "fire use," a broader term encompassing more than just wildland fires.

Wildland-Urban Interface – Locating structures (homes, offices, and other developments) in wildland fuel complexes. Also known as urban interface.

APPENDIX C

C. SPECIES LIST

The following tables are derived from a 1997 Natural Resource Inventory for St Croix Island International Historic Site. Species marked with an asterisk (*) were not present as living specimens, but were identified from shell remains, feces, or other distinctive physical evidence.

Table 8 - Birds

BIRDS	
Common Name	**Scientific Name**
Spotted Sandpiper	*Actitus macularia*
American Black Duck	*Anas rubripes*
Ruby-throated Hummingbird	*Archilochus colubris*
Great Blue Herron	*Ardea herodias*
Semipalmated Plover	*Charadriius hiaticula semipalmatus*
Eastern Crow	*Corvus brachyrhyncos*
Blue Jay	*Cyanocitta cristata*
Downy Woodpecker	*Dendrocopus pubescens*
Hairy Woodpecker	*Dendrocopus villosus*
Black-throated Blue Warbler	*Dendroica coerulescens*
Myrtle Warbler	*Dendroica coronata*
Blackburnian Warbler	*Dendroica fusca*
Magnolia Warbler	*Dendroica magnolia*
Palm Warbler	*Dendroica palmarum*
Yellow Warbler	*Dendroica petechia*
Black-throated Green Warbler	*Dendroica virens*
Common Loon	*Gavia immer*
Buffle-head	*Glaucionetta islandica*
Hermit Thrust	*Hylocichla guttata faxoni*
Veery	*Hylocichla fussescens*
Barn Swallow	*Hirundo rustica*
Pileated Woodpecker	*Hylatomus pileatus*
Tree Swallow	*Iridoprocne bicolor*
Herring Gull	*Larus argentatus*
Bonapart's Gull	*Larus philadelphia*
Song Sparrow	*Melospiza melodia*
Red-breasted Merganser	*Mergus serrator*
Black and White Warbler	*Miniotilta varia*
Osprey	*Pandion halioetus carolinensis*
Parula Warbler	*Parula americana*
Black-capped Chickadee	*Parus atricapillus*
Double-crested Cormorant	*Phalacrocorax auritus*
Golden-crowned Kinglet	*Regulus satrapa satrapa*
Bank Swallow	*Riparia riparia*
Eastern Phoebe	*Sayomis Phoebe*
Oven Bird	*Seirus aurocapillus*

BIRDS	
Common Name	**Scientific Name**
American Redstart	*Setophaga ruticilla*
Eider Duck	*Somateria mollisima*
European Starling	*Sturnus vulgaris**
Robin	*Turdus migratorius*
Tennessee Warbler	*Vermivota peregrina*
Red-eyed Vireo	*Vireo olivaceus*
Whiter-throated Sparrow	*Zonotrichia albicollis*

Table 9 - Mammals

MAMMALS	
Common Name	**Scientific Name**
Bat (species unknown)	*Chiroptera**
Red-backed Vole	*Clethrionomys gapperi*
Snowshoe Hare	*Lepus americanus*
White-tailed Deer	*Ododoileus virginianus**
Deer Mouse	*Peromyscus maniculatus*
Harbor Seal	*Phoca vitulina*
Red Squirrel	*Tamiasciurus hudsonicus*
Black Bear	*Ursus americanus**

Table 10 - Amphibians

AMPHIBIANS	
Common Name	**Scientific Name**
Blue-spotted Salamander	*Ambystoma laterale*
Wood Frog	*Rana sylvatica*

Table 11 - Plants

PLANTS	
Common Name	**Scientific Name**
Balsam Fir	*Abies balsamea (L.) P. Mill.*
Striped Maple	*Acer pennsylvanicum L.*
Red Maple	*Acer Rubrum L.*
Sugar Maple	*Acer saccharum Marsh.*
Mountain Maple	*Acer spicatum Lam.*
Yarrow	*Achillea millefolium L.**
Rhode Island bentgrass	*Agrostis sp. (tenuis Sibth.)*
Alder	*Alnus serrulata (Ait.) Willd.*
Alder	*Alnus incana (L.) Moench*
Shadbush	*Amelanchier sp. (Canadensis)*
Shadbush	*Amelanchier sp. (laevis)*
Thumbleweed	*Anemone virginiana L.*
Pussy's Toes	*Antennaria neglecta Greene*
Everlasting	*Antennaria plantaginfolia (L.) Rich.*
Wild Sarsaparilla	*Aralia nudicaulis L.*
Common Bearberry	*Arctostaphylos uva-ursi (L.) Spreng.*

PLANTS	
Common Name	**Scientific Name**
Large-leaved Aster	*Aster macrophyllus L.*
Orach	*Atriplex patula L.*
Barberry	*Berberis sp.*
Yellow Birch	*Betula allegheniensis Britt.*
Hybird Blue Birch	*Betula x caerulea Blanch.*
Paper Birch	*Betula papyrifera Marsh.*
Sea-rocket	*Cakile edentula (Bigelow) Hook.*
Bindweed	*Calystegia sepium (L.) R. Br.*
Sedge	*Carex crinita Lam.*
Mouse Ear Chickweed	*Cerastium fontanum sp. Vulgare L.*
Wintergreen	*Chimaphila umbellate (L.)*
Thistle	*Cirsium sp.*
Sweet Fern	*Comptonia peregina (L.) Coult.*
Lilly of the Valley	*Convallaria majalis L.*
Pale Corydaiis	*Corydalis sempervirens (L.) Pers.*
Green Osier	*Cornus alternifolia L.*
Bunchberry	*Cornus Canadensis L.*
Hawthorn	*Crataegus sp. L.*
Queen Anne's Lace	*Daucus carota L.**
Bush Honeysuckle	*Diervilla lonicera P. Mill.*
Gramineae	*Elytigia pungens (Pers.) Tutin*
Gramineae	*Elytigia repens (L.) B. D.Jackson*
White-top	*Erigeron strigosus Willd.*
Eyebright	*Euphrasia nemorosa (Pers.) Wallr.*
Grass-leaved Goldenrod	*Euthamia graminifolia (L.) Nutt.*
American Beech	*Fargus grandifolia Ehrh.*
Japanese Knotweed	*Fallopia japonica (Houtt.) Decraene.**
Strawberry	*Fragaria virginiana Duchesne*
White Ash	*Fraxinus Americana L.*
Bedstraw	*Galium mollugo L.**
Creepig Snowberry	*Gaultheria hispidula (L.) Bigelow*
Sea Milkwort	*Glaux maritime L.*
Day Lily	*Hemerocallis fulva L.**
Hawkweed	*Hieracium pilosella L.*
Sneezeweed	*Inula helenium L.*
Blackgrass	*Juncus gerardii Loisel*
Lettuce	*Lactuca sp. (canadensis L.)*
Larch	*Larix laricina (Du Roil) K. Koch*
Beach Pea	*Lathyrus japonicus Willd.*
White Daisy	*Leucanthemum vulgare Lam.*
Sea Lavender	*Limonium carolinianum (Walt.) Britt.*
Honeysuckle	*Lonicera sp.*
Lupine	*Lupinus perennis L.*
Woodrush	*Luzula multiflora (Ehrh.) Lejeune*
Wild lily-of-the-valley	*Maianthemum canadense Desf.*

PLANTS	
Common Name	**Scientific Name**
False Solomon"s Seal	*Maianthemumtrifolium (L.) Sloboda*
Apple	*Malus sylvestris P. Mill. **
Forget-me-not	*Myosotis arvensis (L.) Hill*
Sweet Gale	*Myrica gale L.*
Evening Primrose	*Oenothera sp.*
Virginia Creeper	*Parthenocissus vitacea (Knerr) Hitchc.*
Reed Canary Grass	*Phalaris arundinacea L.*
Common Timothy	*Phleum pratense L.*
White Spruce	*Picea glauca (Moench) Voss*
Red Spruce	*Picea rubens Sarg.*
White Pine	*Pinus strobus L.*
Ribgrass	*Plantago lanceolata L.*
Common Plantain	*Plantago major L. **
Seaside Plantian	*Plantago maritime var. juncoides*
Kentucky Bluegrass	*Poa pratensis*
Knotweed	*Polygonum prolificum (Small) Robins.*
Balsam Poplar	*Populus balsamifera L.*
Big-toothed Aspen	*Populus grandidentata Michx.*
Trembling Aspen	*Populus tremuloides Michx.*
Old Field Cinquefoil	*Potentilla simplex Michx.*
Rattlesnake Root	*Prenanthes sp.*
Pin Cherry	*Prunus pennsylvanica L.*
Black Cherry	*Prunus serotina Ehrh.*
Red Oak	*Quercus rubra L.*
Buttercup	*Ranunculus sp.*
Rhodora	*Rhododendron canadense (L.) Torr.*
Wild Rose	*Rosa sp.*
Raspberry	*Rubus sp.*
Sheep Sorrel	*Rumex acetosella L. **
Yellow Docks	*Rumex crispus L.*
Dock or Sorrel	*Rumex sp.*
Glasswort	*Salicomia europaea L.*
Willow	*Salix sp.*
Elder	*Sambucus racemosa L.*
Groundsel	*Senecio sp. (vulgaris L.)*
3-toothed Cinquefoil	*Sibbaldiopsis tridentala (Ait.) Rydb.*
Blue-eyed Grass	*Sisrychium montanum Greene*
Goldenrod	*Solidago uliginosa Nutt.*
Silverrod	*Solidago bicolor L.*
Mountain Ash	*Sorbus Americana Marsh.*
Salt Meadow Grass	*Sparina patens (Ait.) Muhl.*
Meadow-sweet	*Spirea alba Du Roi var. lalifolia*
Sea Blite	*Suaeda maritime (L.) Dumort.*
Lilac	*Syringa vulgaris L. **
Golden Buttons, Tansy	*Tanacetum vulgare L. **

PLANTS	
Common Name	**Scientific Name**
Dandelion	*Tarxacum officinale Wiggers* *
White Cedar	*Thuja oocidentalis L.*
Goat's Beard	*Tragopogon pratensis L.*
Starflower	*Trientalis borealis Raf.*
Yellow Clover	*Trifolium aureum Pollich.*
White Clover	*Trifolium repens L.*
Arrow-grass	*Triglochin maritimum L.*
American Elm	*Ulmus Americana L.*
Lowbush Blueberry	*Vaccinium angustifolium Ait.*
Mountain Cranbreey	*Vaccinium vitis-idaea L.*
Common Mullen	*Verbascum thapsus L.* *
Possum Arrowwood	*Viburunum nudum L.*
Canada pea, cow vetch	*Vicia cracca L.*
Violet	*Viola cucullata Ait.*
Violet	*Viola sp.*

APPENDIX D

D. NEPA AND OTHER COMPLIANCE

1. EA FONSI

United States Department of the Interior

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

IN REPLY REFER TO:

L7617(SACR)

FINDING OF NO SIGNIFICANT IMPACT

Wildland Fire Management Plan

Saint Croix Island International Historic Site

The National Park Service proposes to implement a wildland fire management plan (WFMP) at Saint Croix Island International Historic Site.

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 site consists of Saint Croix Island, a 6.5-acre island in the Saint Croix River, and two mainland portions totaling 38.5 acres; one on the western shore of the Saint Croix River overlooking the island, while the other section is located nearby, just across Route 1.

An environmental assessment (EA) was prepared to better understand the environmental effects associated with managing wildland fire. Actions that were evaluated included fire suppression, manual and mechanical reduction of hazard fuels, managing fuels near structures and boundaries, research of prescribed fire use, and public education. Potentially affected resources identified during scoping and evaluated in the EA included soils, surface water resources, vegetation, wildlife, air quality, visitor use and experience, human health and safety, and cultural resources.

DECISION

The National Park Service is selecting Alternative 2 as the preferred alternative in the EA and will develop a WFMP. Due to the relatively small size of the park, Saint Croix Island International Historic Site will be managed as a single fire management unit (FMU).

The WFMP will call for suppressing all wildland fires, providing for manual and mechanical hazard fuel reduction treatments to maintain designated open areas, reducing fuel loadings within the park, creating fuel breaks along park boundaries, creating and maintaining defensible space around park structures on the mainland portion of the park, and researching the future use of prescribed fire as a management tool. Defensible spaces are areas around structures kept free of flammable vegetation to help prevent the spread of wildland fires towards those structures. Management objectives of the WFMP will include:

- Suppressing all wildland fires.
- Protecting and maintaining the historic and cultural landscape on Saint Croix Island and the mainland.
- Reducing 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 "hazards" will primarily be dead, down, and diseased timber, ladder fuels, non-ornamental shrubs, undergrowth and fallen limbs, of less than 4 inches diameter at breast height (dbh) outside the 'resource protection zone' as described in the Maine Mandatory Shoreland Zoning Act. Remaining live trees will 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 will either be chipped on-site or hauled from the park to an approved location for disposal.

The appropriate management response (AMR) will 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 will also apply to the wildland 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 wildland fire management plan. The AMR for fires within the park will be developed in cooperation with the Calais Fire Department, who will provide the principle wildland fire response to the park. All wildland fires in the park, regardless of origin will 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 fire lines within known cultural areas and excessive tree cutting. These and tactics with similar adverse effects will be avoided whenever possible. All wildland fire suppression activities will adhere to minimum impact suppression tactics (MIST) guidelines as outlined in Section 2.3 *Mitigation Measures and Monitoring*. 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 hand line. 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 will be dependent on the specific situation and circumstances of each fire. Specific minimum impact suppression tactics include:

- Keeping fire engines or slip-on units on existing roads;
- Restricting the use of heavy equipment such as bulldozers or plows for constructing fire lines. A tractor with box blade or disc will be used for fire line construction only in extreme situations and only on the mainland portion of the site when high value resources are at risk, and then only with the authorization of the superintendent or designee;
- Using existing natural fuel breaks and human-made barriers, wet line, or cold trailing the fire edge in lieu of hand-line construction whenever;
- Keeping fire line widths as narrow as possible when they must be constructed;
- Avoiding ground disturbance within known natural and cultural resource locations.
- Using soaker hose, sprinklers or foggers in mop-up; avoid boring and hydraulic action;
- Minimizing tree cutting;
- All suppression actions will utilize the appropriate management response derived from the fire management objectives and developed in cooperation with the Calais Fire Department;
- Protecting air and water quality, scenic vistas, and other resources by complying with the Clean Air Act, the Clean Water Act, and all other applicable federal, state, and local laws and requirements.

Manual and mechanical hazard fuel treatments (e.g. chainsaws, mowers, and brush hogs) will 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 fire breaks along the park's mainland perimeter, and maintain defensible space around park buildings. All hazard fuel reduction treatments will be reviewed and approved by the park's natural and cultural resources specialists prior to implementation.

Except where restricted by law, 10-feet-wide fire breaks will 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 fire breaks will be created by mechanical and manual means through the use of brush hogs, chainsaws, chippers, and hand tools. The cleared vegetation will either be chipped or hauled off site.

Heavy concentrations of finer fuels (dead twigs, branches limbs, fallen tree tops, etc) will 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 will reduce the potential for the start and spread of wildland fires within the park.

Defensible space around each of the park’s structures will be created and maintained by regular mowing and removing hazard fuels, to the greatest extent possible, around each of the park’s

structures to a distance of no less than 30-feet. Hazard fuels that will be removed will be dead, down, and diseased timber, ladder fuels, non-ornamental shrubs, undergrowth and fallen limbs, and non-ornamental trees of less than 4 inches diameter at breast height (dbh). Remaining live trees will be limbed to approximately 12 feet from the base of tree. These standards will be modified, where appropriate to maintain historical and culturally significant landscapes. Written prescriptions for these treatments will be developed by the park's fire management staff and reviewed and approved by the park's natural and cultural resource specialists 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 wildland fire management plan, its use as a management tool in future wildland fire management plans has not yet been totally rejected. Under this alternative, the park may research prescribed fire use through both qualitative (e.g. literature reviews, guidance from USFWS, 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 will be a useful and beneficial management tool at the park. The results of this research will be used to determine whether prescribed fire use will be included in future wildland fire management plans.

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

OTHER ALTERNATIVES CONSIDERED BUT NOT SELECTED

The No Action Alternative

Under this alternative, the park would continue to operate without the guidance of a wildland 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.

ENVIRONMENTALLY PREFERRED ALTERNATIVE

The preferred alternative is also the environmentally preferred alternative. The environmentally preferred alternative is the alternative that will promote the national environmental policy as expressed by §101 of the National Environmental Policy Act (NEPA). 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."

In this case, Alternative 2 is the environmentally preferred alternative, 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.

THE SELECTED ALTERNATIVE AND SIGNIFICANCE CRITERIA

As defined at 40 CFR §1508.27, from the regulations of the Council on Environmental Quality that implement the provisions of NEPA, significance is determined by examining the following criteria:

Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial.

There are overall benefits to the human and natural environment at Saint Croix Island International Historic Site from the selected action. There will be beneficial effects on the human health and safety of the park's visitors, staff, and neighboring residents, on park facilities, cultural resources, and vegetation communities with its hazard fuels reduction along sections of the park's perimeter and creation of defensible space around park structures.

The selected alternative does not entail any significant adverse impacts on soils, wildlife, human health and safety, and visitor use and experience. These impacts are minor, localized, and short-term. None of the impacts rise to the level of significance.

The degree to which the proposed action affects public health or safety

When conducting fire management activities, human health and safety is the primary concern. Under the selected alternative, every caution will be taken during fire management activities and the affects to public health and safety will be negligible. The selected alternative provides the best protection since manual and mechanical hazard fuel treatments will help reduce hazardous fuels in the park and minimize the fire risk to the park staff and nearby private residences and communities.

Unique characteristics of the geographic area such as proximity to historic or cultural resources, parklands, prime farmlands, and wetlands.

As described in the EA, the intent of the action alternatives is to provide the maximum amount of protection for the important natural and cultural resources of the park. After consultation with the federally recognized Maine tribes and the Maine Historic Preservation Commission (SHPO), it has been determined that the implementation of the WFMP will result in no significant adverse effects to cultural resources because during fire management activities mitigation measures will be incorporated to protect these areas.

The degree to which the effects on the quality of the human environment are likely to be highly controversial.

There were no controversial impacts identified during the analysis done for the EA, and no controversial issues were raised during the public review of the EA.

Degree to which the possible effects on the quality of the human environment are highly uncertain or involve unique or unknown risks.

There are no identified risks associated with the selected alternative that are unique or unknown, nor are there effects associated with the selected alternative that are highly uncertain as identified during the analysis for the EA or during the public review of the EA.

The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.

The selected alternative does not establish a precedent for any future actions that may have significant effects, nor does it represent decisions about future considerations. The purpose of this action is to develop a wildland fire management plan and program that protects the human environment, including natural and cultural resources, of the park from wildland fire, while minimizing the impacts from suppression tactics, and minimizes the fire risk to park resources and adjacent lands from hazardous fuel accumulations.

Under such a program, manual and mechanical hazard fuel reduction activities will be conducted over several years to reduce hazard fuels. This program will be evaluated and, if necessary, revised during future revisions to the park's wildland fire management plan.

Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.

The EA determined that there would be no significant cumulative impacts associated with the preferred alternative.

The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed on National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.

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 site. In recent years, the National Park Service has been working in consultation with the 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 and a 1904 memorial tablet. Archeological resources on 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, who continue to use these areas for ceremonial purposes to the present day.

The EA was written in compliance with Section 106 of the National Historic Preservation Act, and it was determined by consultation with the federally recognized Maine tribes and the SHPO that developing and implementing a WFMP will have no adverse effect to the cultural resources of the park. A copy of that determination is included in the appendix of the referenced WFMP.

The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.

Consultation with the U.S. Fish and Wildlife Service has determined that there are no threatened or endangered species found within or adjacent to the park, resulting in a determination that there will be no adverse impacts to any state or federally listed threatened or endangered species. A copy of that determination is included in the appendix of the referenced wildland fire management plan.

Whether the action threatens a violation of Federal, state, or local law or requirements imposed for the protection of the environment.

The development and implementation of the wildland fire management plan violates no federal, state, or local environmental protection laws. All actions would comply with federal, state, and local laws and regulations, including the Mandatory Shoreland Zoning Act and other core laws of the Maine Coastal Program.

Impairment

In addition to reviewing the list of significance criteria, the National Park Service has determined that the selected alternative will not cause impairment to the critical resources and values of the park. This conclusion is based on a thorough analysis of the environmental impacts described in the Draft Wildland Fire Management Plan EA, public comment, relevant scientific studies, and the professional judgment of the decision-maker guided by the direction in NPS *Management Policies 2001*. The selected alternative will result in only negligible to minor adverse impacts to air quality resources, primarily in the form of smoke impacts to visibility. Overall, the plan will result in benefits to park resources and values, opportunities for their enjoyment, and it will not result in impairment.

PUBLIC INVOLVEMENT

The environmental assessment was made available for public review and comment during a 30-day period ending September 13, 2004. A legal notice announcing its availability was published in the local paper on August 12, 2004. Only one comment was received and it was in favor of implementing Alternative 2.

FINDING OF NO SIGNIFICANT IMPACT

The selected alternative will not constitute an action that normally requires preparation of an environmental impact statement (EIS). The selected alternative will not have a significant affect on the human environment. Negative environmental impacts that could occur are negligible or minor in intensity. There are no significant impacts on public health, public safety, threatened or endangered species, sites or districts listed in or eligible for listing in the National Register of Historic Places, or other unique characteristics of the region. No highly uncertain or controversial impacts, unique or unknown risks, significant cumulative effects, or elements of precedence were identified. Implementation of the action will not violate any federal, state, or local environmental protection law.

Based on the foregoing, it has been determined that an EIS is not required for this project and thus will not be prepared.

Recommended: _____ 5/4/05
Sheridan Steele Date
Superintendent, Acadia National Park

Approved: _____ 6/4/2005
For Mary A. Bomar Date
Acting Regional Director, Northeast Region
National Park Service

ATTACHED REFERENCES

National Park Service. August 2004. Saint Croix Island International Historic Site Wildland Fire Management Plan Environmental Assessment. Saint Croix Island International Historic Site, c/o Acadia National Park, P.O. Box 177, Bar Harbor, Maine 04609.

National Park Service. 2005. Saint Croix Island International Historic Site Wildland Fire Management Plan. Saint Croix Island International Historic Site, c/o Acadia National Park, Bar Harbor, Maine 04609.

Parks Canada. September 13, 2004. Correspondence: Public Comment on Saint Croix Island International Historic Site Fire Management Plan Environmental Assessment. File L7617(SACR) held at Park Headquarters, Acadia National Park, Bar Harbor, Maine 04609.

2. SHPO – NHPA consultation

MAINE HISTORIC PRESERVATION COMMISSION
55 CAPITOL STREET
65 STATE HOUSE STATION
AUGUSTA, MAINE
04333

JOHN ELIAS BALDACCI
GOVERNOR

EARLE G. SHETTLEWORTH, JR
DIRECTOR

August 30, 2004

Lee Terzis
Acadia National Park
P.O. Box 177
Bar Harbor, ME 04609

Project: MHPC #1967-04 - St. Croix Island IHS Fire Management Plan EA
Town: Calais, ME

Dear Ms. Terzis:

In response to your recent request, I have reviewed the St. Croix Island IHS Fire Management Plan Environmental Assessment received August 23, 2004 to initiate consultation. This project was reviewed pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended.

Based on the scope and analysis, I concur with your assessment that Alternative 2 (preferred alternative) of the Fire Management Plan will have no adverse effect upon cultural resources (architectural or archaeological).

Please contact Mike Johnson of my staff if we can be of further assistance in this matter.

Sincerely,

Earle G. Shettleworth, Jr.
State Historic Preservation Officer

EGS/mj

PHONE: (207) 287-2132

PRINTED ON RECYCLED PAPER

FAX: (207) 287-23

3. Section 7 consultation

----- 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

1

Judith Hazen Connery
Natural Resource Specialist
Acadia National Park
P.O. Box 177
Bar Harbor, ME 04609
207-288-8721 (voice)
207-288-8709 (fax)

4. Parks Canada Comment

Parks Canada Parcs Canada

Kouchibouguac National Park of Canada
186, Route 117
Kouchibouguac National Park, NB
E4X 2P1
September 13, 2004

1140-36

RECEIVED
Acadia National Park
Route and Initial

SEP 20 2004

SUPT		PROT		LAND RES	
DEPUTY		MAINT		PLANNER	
ADMIN		VAT RES		CONCESSIONS	
INTERP		CULT RES			

Sheridan Steel
Superintendent
Saint Croix Island International Historic Site
c/o Acadia National Parks Canada
P.O. Box 177
Bar Harbor, ME 04609-0177

Dear Sir:

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

We thank you for consulting us on your proposed Saint Croix Island International Historic Site Fire Management Plan Environmental Assessment. We have reviewed the document and would like to congratulate you and your staff on the research and work done for this EA.

We are pleased to see that topics such as water resources, flood plains and wetlands, wildlife, cultural resources and visitor use and appreciation, to name but a few, have been included in your assessment as we believe that those topics would benefit greatly from a comprehensive Fire Management Plan. We support your endeavour to include in your plan cooperative wild land fire suppression, manual and mechanical hazard fuel reduction treatments and the plan to investigate, in the future, the use of prescribed fire.

As always, in order for plans of this nature to be effective, they need the cooperation of park employees and the public. We are also pleased to see that the U. S. National Park Service has included, as one of its objectives, a program to educate park employees and the public about the scope and effect of your Fire Management Plan.

We look forward to continuing working with you and your staff on the promotion and preservation of Saint Croix Island International Historic Site.

Yours truly,

Barry F. Spencer
Acting Field Unit Superintendent
New Brunswick North Field Unit

Canada

APPENDIX E

E. ANNUAL REVISION DOCUMENTS

1. Fire Call-up List

   1st: Calais Fire Department
   2nd: Acadia National Park Fire Management Office

2. Preparedness Inventory

   The Saint Croix Island International Historic Site has no designated preparedness inventory. The initial response agency (Calais Fire Department) will furnish all necessary suppression tools for initial attack operations.

3. Cooperative Agreements

   No cooperative agreements are currently in place for fire management activities. Agreements developed in the future will be listed in this section. The original copy of all agreements will be maintained in the Fire Management Office at Acadia National Park.

4. Key Contact List

Organization	Phone Number	Contact Individual
Calais Fire Department	207-454-7400	Daniel Carlow, Chief
Calais Police Department	207-454-2751	Michael Milburn, Chief
Washington County Sheriff	207-255-4422	Joseph Tibbetts, Sheriff
Washington County Emergency Management	207-255-3931	Paul Thompson, Director
Maine Forest Service (Downeast District)	207-434-2621	Jeff Currier, District Ranger
Maine State Police (Machias Barracks)	207-255-6125	
U.S. Fish & Wildlife Service Fire Management Office (Old Town)	207-827-6138	Rick Vollick, FMO
Acadia National Park Fire Management Office	207-288-8780	Doug Jones, FMO
NPS Northeast Region Fire Management Office	617-223-5067	Paul Head, Regional FMO

APPENDIX F

F. WILDLAND AND PRESCRIBED FIRE MONITORING PLAN

There is no formal monitoring plan in place for Saint Croix Island International Historic Site.

The protocols found in the NPS Fire Monitoring Handbook will be use for photo documentation of non-fire fuel treatment projects and for monitoring prescribed fire research burns within the park.

APPENDIX G

G. PRE-ATTACK PLAN

A pre-attack plan is not required since the NPS does not maintain fire suppression resources at the park. The pre-attack planning activities conducted by the Calais Fire Department, in cooperation with the NPS, will serve as the pre-attack plan for the park.

APPENDIX H

H LONG-TERM PRESCRIBED FIRE AND HAZARD REDUCTION PLAN

1. Multi-year Prescribed Fire Schedule

   Prescribed fire use is not included in this plan.

2. Hazard Fuels Reduction Areas and Schedule (+Treatment Methods)

   A non-fire fuel treatment plan for the park will be developed and included in this appendix.

APPENDIX I

I. FIRE PREVENTION PLAN

A fire prevention plan for the park will be developed and included in this appendix.

APPENDIX J

J. RENTAL EQUIPMENT AGREEMENTS

No rental agreements are in place and none are anticipated.

APPENDIX K

K. CONTRACTS FOR SUPPRESSION AND PRESCRIBED FIRE RESOURCES

A cooperative agreement between the NPS and the Calais Fire Department, for wildland fire operations is currently being developed and will be included in this appendix when completed.

APPENDIX L

L. BURNED AREA EMERGENCY STABILIZATION AND REHABILITATION PLAN

A rehabilitation plan is not required, based upon the very limited fire occurrence and fire size that has historically occurred in the park..