



United States Department of the Interior

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APR 27 2007

Memorandum

To: Northeast Regional Director

From: Superintendent, Cape Cod National Seashore

Subject: Finding of No Significant Impact (FONSI) and Alternative Selection for the Fire Management Plan

This memorandum records the selection of a management alternative by the National Park Service (NPS) from those presented in the *Environmental Assessment: Cape Cod National Seashore Fire Management Plan*. The decision is made after public and interagency review and comment, careful consideration of environmental effects, legislative mandates, applicable regulations, and NPS policy.

The National Environmental Policy Act (NEPA) requires consideration of the environmental effects of proposed federal actions. The act also ensures that environmental information is available to public officials and the public before decisions are made and actions are taken. The Environmental Assessment (EA) describes the proposed action and the no-action alternative, and summarizes potential environmental consequences of implementing the alternatives. This memorandum documents highlights of the impact analysis and decision-making processes, signaling completion of the EA process as required by NEPA.

Background

Fire is a natural and integral part of the ecosystem encompassing Cape Cod National Seashore (CACO). A history of fire spanning thousands of years has created a fire-dependent environment on the Outer Cape. Fire acts as a significant force of change to the resources of the Seashore and surrounding non-federal lands. The evolution of efficient fire-detection and fire-suppression

technology and increases in barriers to fire spread since the 1940's have resulted in increased fuel loadings within the Seashore's forests and wildland environments. The increase in fuel loading places the Seashore's resources and the Outer Cape's widespread development at risk to devastation by catastrophic fire.

Vegetation in Cape Cod National Seashore is predominantly pitch pine – oak forest. There are notable occurrences of heathlands, grasslands, marshlands, bogs, and hardwood forests. Studies on the vegetation of Cape Cod, including fire scar assessments and core sample analysis, have determined that fire, both natural and human caused, has produced much of the vegetation mosaic present at the Seashore today. Similar fuel conditions existed in 1957 in Plymouth, Massachusetts, when a wildland fire in pine-oak-huckleberry fuels burned 15,000 acres in less than two days. Long Island, New York, has similar soils, fuels, and development to the Lower Cape. On Long Island in August 1995, two different fires burned 5,000 acres and threatened a number of houses and businesses.

The absence of fire has also impacted natural communities, such as grasslands and heathlands, which depend on fire for survival. The natural and human caused fires (historical deforestation/logging and grazing have also contributed to the creation of grasslands and heathlands) that helped create these rare ecological niches have been absent in recent years, thereby contributing to the continued rarity of these areas.

The wildland fire potential on the outer Cape is now increasing substantially due to the absence of large fires during the past 50-60 years which has allowed forest fuels to accumulate. Prompt suppression action on unplanned fire ignitions by local fire departments has limited the area burned in the Seashore to less than 300 acres since 1974. The accumulation and build-up of forest fuels has reached levels that, during certain weather events, may burn with intensities that could threaten the 500+ private property located within CACO. Numerous park and public structures, and residences and businesses adjacent to Seashore property are also potentially at risk. Additionally, forest growth has limited access on many woods roads. Vegetation encroachment on the many miles of one-way woods roads in the Seashore has limited emergency response personnel from quick initial action in the event of a wildland fire.

Preserving natural and cultural resources, enhancing public and firefighter safety, and improving the conditions in the wildland-urban interface (WUI) by fuel reduction can be achieved through a program of increased mechanical treatments and prescribed burning. A no action alternative is analyzed in the EA. The preferred alternative involves the use of mechanical treatments and prescribed burning to designated areas within CACO based on wildland-urban interface areas, firefighter safety, and resource management goals and needs. The treatments are anticipated to take place over a cycle of several decades comprising a proposed maximum of 500 treated acres per year for up to a maximum cumulative of 15,000 acres. The proposed treatments could improve access to potentially congested woods roads for firefighters and residents, could create effective fire breaks, and could break-up the build-up of current fuel accumulations thereby decreasing the chance of catastrophic wildfire while providing niches of fuel reduced environments for native species and communities.

Summary of Alternatives

This EA evaluates the potential impacts of establishing a program of mechanical treatments and prescribed fire over several years under the context of two alternatives:

Alternative 1: No Action Alternative – Continue With Current Fire Management Program

The “No Action” alternative will continue the current program that includes: 1) prescribed burning not more than 30 acres per year in the Seashore at the prescribed burn research area in Truro and at Fort Hill in Eastham; 2) maintaining woods road access for emergency vehicles by manually clearing brush and trees within six feet of road shoulders; 3) clearing vegetation manually within thirty feet of Seashore owned facilities. This alternative has the potential to lead to further build up of forest fuels which could lead to a catastrophic wildland fire situation threatening both life and property. “No Action” does not address further impacts to fire-adapted ecological communities and eventually to the possible loss of particular fire dependent plant and animal species.

Alternative 2: Increased Use of Mechanical and Prescribed Fire Treatments (Environmentally Preferred Alternative and Preferred Alternative)

Treating up to 500 acres per year using mechanical treatments and/or prescribed fire is proposed. Combinations of prescribed fire and mechanical treatments are effective means of creating fuel breaks and reducing fuel loading. These treatments comprise a proposed maximum of 500 acres per year for up to a maximum cumulative of 15,000 acres during the next 30 years. Ecological areas will be assessed as to whether mechanical treatment is needed or appropriate. Prescribed fire in combination with mechanical removal of over- and under-story vegetation may be effective treatments to quickly achieve both fuel reduction and ecological benefit objectives. These methods are currently being tested and analyzed at research plots in S. Truro through the Joint Fire Science Program (JFSP).

In the CACO 2007 Fire Management Plan (being finalized) prescribed fire and mechanical treatment areas are defined based on twenty two criteria (Table 1). These criteria define the area and size of treatments as: 1) a Buffer Zones for firefighter, visitor and structure safety/protection; or 2) Area of Resource for fuel reduction, vista, cultural landscapes and resource management projects.

Buffer zones are designed to enhance fire protection by offering reduced fuel zones. Reduced fuel buffers will be created using prescribed fire and mechanical treatments around “resources-at-risk” including: structures, privately-owned land, historic sites, and picnic areas. Where prescribed fire is not practical due to proximity to people or structures, mechanical fuel reduction techniques may be utilized. For example, reducing fuels along a five chain (330 ft; 100 m) wide border on either side of woods roads will provide an enhanced fire break by providing a low fuel loading buffer.

Areas of Resource are designed to address ecosystems and vegetation communities where prescribed fire, in association with mechanical treatments if necessary, may be used as a tool for

any resource management objectives. For example, prescribed burning may be used to maintain fire-adapted natural communities, such as heathlands, and habitats of rare fire-adapted species, such as the sandplains blue-eyed grass (*Sisyrinchium arenicola*) and coastal barrens buckmoth (*Hemileuca maia*). Because fire is an economical, effective, and historically appropriate tool to discourage woody plant growth while encouraging herbaceous plant growth, mechanical treatments followed by prescribed fire may be used to maintain several vistas and cultural landscapes on the Seashore.

Table# 1 Prescribed Burn and Mechanical Treatment Area Delineation Criteria

#	Criterion Name	Standard	Approximate Meters	Purpose
1	Bike Trail Buffer	3 Chains	70M	Firefighter Safety, Fuel Reduction
2	Cemetery Buffer	3 Chains	70M	Firefighter Safety, Fuel Reduction
3	Grassland Bird Habitat	Extent	Area of Resource	Resource Management
4	Tidally Restricted Wetlands	Extent	Area of Resource	Resource Management, Fuel Reduction
5	School Site Buffer	3 Chains	70M	Cultural Landscape, Firefighter Safety, Fuel Reduction
6	Picnic Areas and Parking Lot Buffer	2-5 Chains	50-100M	Wildland-Urban Interface Fuel Reduction
7	Park Boundary Buffer	5 Chains	100M	Wildland-Urban Interface Fuel Reduction
8	Public Building Buffer	5 Chains	100M	Wildland-Urban Interface Fuel Reduction
9	Private Land Buffer	5 Chains	100M	Wildland-Urban Interface Fuel Reduction
10	Rare Species Habitat	Extent	Area of Resource	Resource Management
11	Road Buffer	3 Chains	70M	Wildland-Urban Interface Fuel Reduction
12	Research Area Buffer	5 Chains	100M	Resource Management
13	NPS Structure Buffer	5 Chains	100M	Wildland-Urban Interface Fuel Reduction
14	Town Line Buffer	5 Chains	100M	Wildland-Urban Interface Fuel Reduction
15	Town Land Buffer	5 Chains	100M	Wildland-Urban Interface Fuel Reduction
16	Hiking Trail Buffer	3 Chains	70M	Firefighter Safety, Fuel Reduction
17	Road Intersection buffer	8 Chains	180M	Firefighter Safety, Fuel Reduction
18	Vistas	Extent	Area of Resource	Resource Management
19	Cultural Landscapes	Extent	Area of Resource	Resource Management
20	Heathlands	Extent	Area of Resource	Resource Management
21	Powerline Buffer	5 Chains	100M	Wildland-Urban Interface Fuel Reduction
22	Wildlife Management Areas	Extent	Area of Resource	Resource Management, Fuel

				Reduction
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All proposed prescribed fire and mechanical treatment criteria have been mapped and comprise a total of 18,073 acres. The proposed maximum number of acres that will be treated annually is not to exceed five hundred. Precedence for treatment will be based on numerous factors including: notable criteria overlap, permitting, scheduling, proximity to adjacent structures, and workforce availability.

Alternatives Considered but Rejected

Two alternatives were considered, but rejected.

1. Full Suppression

The Full Suppression alternative would conduct no further increase in vegetation clearing or prescribed burning within the Seashore. This alternative would encompass the entire 27,000 burnable (out of 43,570 total) acres of the Seashore. Annual requests for more firefighting staffing would be required to ensure adequate resources exist to prevent fires from escaping initial control action. Meanwhile, fuels would continue to accumulate, and over time the amount of fuel would, under certain extreme weather conditions, be prone to burning with rapid rates of spread and high intensities. High intensity fires would compromise firefighter and public safety, be expected to kill a high percentage of forest trees, and would be expensive to suppress. This alternative was rejected for several reasons, including adverse impacts on park resources, excessive staffing requirements, and significant reduction in the safety and protection of firefighters, the public, and improved properties.

2. Mechanical Treatment Only

This alternative would involve mechanical treatment using wheeled and/or tracked tractors, skidders and/or mowers to selectively thin forest trees and mow road shoulders, vistas, heathlands, areas of high understory fuel accumulations and cultural landscapes. Mechanical treatments can cause soil compaction, have potential adverse effects on unknown archaeological resources, take more time to accomplish fuel reduction (compared to prescribed burning), and are not as ecologically efficient as fire treatment(s). This alternative was rejected based on ecological issues and park equipment concerns. Mechanical treatment, when not used in conjunction with prescribed fire, taxes the environment, staff, and mechanical equipment.

Statement of Selected Alternative

Of the viable alternatives presented in the EA, the NPS has identified Alternative 2 — Increased Use of Mechanical and Prescribed Fire Treatments as the environmentally preferred alternative. The NPS selects Alternative 2 for implementation as the basis for the Cape Cod National Seashore Fire Management Plan.

Summary of Public and Interagency Involvement

In accordance with Director's Order 12, Conservation Planning, Environmental Impact Analysis, and Decision-making; coordination and public involvement in the planning and preliminary design of the proposed action was initiated early in the process.

Two public comments periods and three public meetings were held. The public was informed of the Fire Management Planning process for the first comment period by a news release on June 2, 2004 that announced two public meetings requesting public input and comments. The meetings were scheduled and held on June 30, 2004 at the Wellfleet Audubon Sanctuary and on July 15, 2004 at the Truro Public Library. The first public comment period was for scoping for the preparation of the EA and ran from September 20, 2004 to October 20, 2004. The second public comment period, for review of the EA, ran from December 6, 2005 to January 20, 2006 and the third public meeting was held on January 18, 2006 at the Eastham Fire Department.

Public notices regarding the availability of the Environmental Assessment were distributed to local residents and other interested parties. Press releases regarding the availability of the Environmental Assessment were published in local papers.

No individuals or groups from the public at large attended any of the three public meetings. Public meetings were attended only by NPS staff invitees and management from the Truro and Eastham fire departments. Written and oral comments were received from the following:

Written Comments:

On January 6, 2006 the Massachusetts State Historic Preservation Officer (Brona Simon) concurred with the NPS determination of no adverse effect for the Fire Management Plan for Cape Cod National Seashore.

The USDI Fish and Wildlife Service provided comments in accordance with Section 7 of the Endangered Species Act of 1973 and recommended coordination with the USFWS on site specific fire treatments near or adjacent piping plover breeding sites annually from April 1 to September 1.

In January, 2006 The Nature Conservancy and Association to Preserve Cape Cod both supported an increase in prescribed burning and mechanical treatments to maintain rare and threatened fire adapted natural communities in the Seashore.

Cape Cod National Seashore Resource Management Specialist Nancy Finley commented that a "secondary objective to fuels management is the restoration of native habitats to support native species". Deputy Superintendent Michael Murray concurred that treatments associated with the FMP would provide a secondary benefit of improving native wildlife habitat.

Richard Crisson, NPS Northeast Region Historical Architect, concurred with the park's assessment of a no adverse effect on the cultural resources of Cape Cod National Seashore with the stipulation that cultural resource specialists be given the opportunity to review each written treatment plan as they become available.

Margie Coffin Brown, NPS Northeast Region Landscape Advisor, suggested specialists identify trees to be preserved in advance of mechanical fuel reduction or prescribed burns.

Robin Lepore, NPS Northeast Region Coastal Management Specialist, wrote that the FMP/EA does a good job making a case for fire management, both as a safety concern and to maintain early successional habitats. She also suggested some areas of the Seashore be designated as no-burn areas for the foreseeable future. GIS mapping of the 22 Prescribed Burn and Mechanical Treatment Area Delineation Criteria show numerous areas within the Seashore where no treatment under the Fire Management Plan will occur.

Truro resident and Cape Cod National Seashore Advisory Commission Chair Brenda Boylen sent a letter supporting the proposed fuel reduction activities.

Eastham residents Robert and Marian Brunck in February 2004 wrote about their concerns with the increasing amount of fallen and dead trees and branches that are collecting, not only in Eastham, but elsewhere in the Park, as the years pass. They suggested it would probably be “less expensive to do a really good job each year of cleaning up the dead wood than of fighting a forest fire and then having to restore the burnt out areas”. Restoration of burned areas will, as necessary, follow interagency Burned Area Emergency Rehabilitation (BAER) guidelines (http://www.nps.gov/nifc/fire/fir_baer.cfm).

Eastham Resident Terry Tuchin wrote in January 2005 with praises of prescribed fires effects on reducing *Phragmites* at Fort Hill in Eastham. Mr. Tuchin further requested more advanced notice of prescribed fires at Fort Hill.

Oral Comments:

Commonwealth of Massachusetts DEP Environmental Analyst John Paino relayed that Massachusetts Department of Air Quality had no comments on the FMP or EA and would review an application for a multi-year burn permit upon receipt.

Truro Fire Chief E. Thomas Prada supported the idea of fuel reduction activities along woods roads for easier and continued access, and for the resulting benefits as a fire/fuel break.

Tim Simmons, Massachusetts Division of Fisheries and Wildlife – Natural Heritage and Endangered Species Program (NHESP), stated that rather than the NHESP conducting a species-by-species review of the entire three decade and 15,000 acre plan, that NHESP would rather conduct an annual review of proposed project areas. CACO Fire Management Officer David W. Crary, Jr. confirmed with Tim Simmons during March 2007 that the NPS could provide NHESP with maps showing proposed treatment areas on an annually or bi-annual timetable.

The Coastal Zone Management (CZM) Act requires that federal agencies adhere to state Coastal Zone Management Plans when conducting projects or activities that affect the coastal zone. The Cape and Islands coordinator of the Massachusetts CZM program confirmed their consistency determination by telephone on March 28, 2007.

Summary of Environmental Consequences

The Environmental Assessment provides more detail on the environmental consequences of the selected alternative. In summary, the preferred alternative will reduce fuels by conducting treatments to the natural communities of the Seashore using prescribed burning, or using mechanical methods (thinning by hand or machine and/or mowing), or both, on up to 500 acres per year. Treatments, outlined in a Written Treatment Plan (WTP), will occur during all months if weather permits. Numerous (up to eighty) small prescribed burns (generally less than 10 acres in size each) will occur each year under the direction of a Prescribed Burn Plan.

The preferred alternative will produce chiefly favorable impacts for the natural resources, cultural resources, and surrounding community of Cape Cod National Seashore. Although there may be some immediate short-term adverse impacts to specific plants and animals during fire management activities, these species would benefit extensively in the long-term through improved habitat. Rare, fire-adapted plant and animal communities will likely increase under this alternative. Although some invasive species may propagate immediately following prescribed fire, a combination of burning, mechanical treatments, and other park efforts will help to reduce the spread of these plants. Negligible long-term impacts are anticipated for soil, water, and air quality resources. Temporary short-term adverse impacts to air quality may occur during burns. These impacts will be minimized by: 1) burning on days when weather conditions provide good smoke dispersion, 2) generally limiting ignition to daylight hours, and 3) managing small burn/treatment units.

Favorable impacts would result for the surrounding community in the form of increased safety for the public and associated homes and improved properties. This alternative would also result in minor, short-term impacts to the surrounding community concerning smoke emission. Any impacts will be minimized by following proposed smoke management mitigation actions.

Short-term, minor impacts on visual resources within the park may result from the preferred alternative in the form of smoke, blackened areas, and the appearance of mechanically treated areas. Any impacts will be mitigated through rotating treatment schedules, small compartment implementation, and by following the WTP. Surrounding residential areas and built environments as well as smoke dispersion are strongly considered in developing a WTP and Prescribed Burn Plan. Long-term, beneficial impacts may result from increased public education opportunities through the interpretation of treated sites.

The preferred alternative will have direct long-term favorable impacts to historic structures and landscapes by increasing fire fighter safety, improving wildland-urban interface issues, maintaining cultural landscapes, and creating more fire breaks to slow or stop an uncontrolled wildland fire.

WHY THE PREFERRED ALTERNATIVE WILL NOT HAVE A SIGNIFICANT EFFECT ON THE HUMAN ENVIRONMENT

As defined in 40 CFR §1508.27, significance is determined by examining the following criteria:

Impacts that may have both beneficial and adverse aspects and which on balance may be beneficial, but that may still have significant adverse impacts which require analysis in an EIS: No major adverse or beneficial impacts were identified that would require analysis in an environmental impact statement. No impacts to cultural resources, air quality, soundscapes, water quality, land use, socioeconomics, energy resources, geology, marine and estuarine resources, federal protected species, lightscapes, Indian trust resources, floodplains, scenic resources, prime and unique farmlands, or park operations were identified.

Under the Preferred Alternative, fire-related impacts to air resources may be adverse, but short-term and minor in intensity. Beneficial impacts to plant and animal resources will be achieved in the long-term. Beneficial impacts to coastal upland ecosystem resources, dune ecosystem resources and state-protected species will be moderate, comprising both short-term impacts improvements to ecosystems related to fire and long-term beneficial impacts associated with increased heathlands and healthier forests. Beneficial impacts to visitor and staff safety, and visitor use and experience will be long-term and moderate in intensity.

Degree of effect on public health or safety: During fire management projects, short-term safety issues include fire and mechanical mowing worker safety, which will be mitigated by following Occupational Safety and Health Administration (OSHA) guidelines, and protecting visitors and employees during mowing and fire management activities through the use of defined fire and construction areas with restricted access as needed. Fire and mechanical fuel reduction activities will be limited, to the extent possible, to surface fuels only. Staging and turn around areas for equipment will be clearly designated.

Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas: Historic, cultural, landscape and vista resources and prime and unique ecologically critical areas will positively affected.

There will be no long-term impacts to wetlands or wild and scenic rivers resulting from the Preferred Alternative.

After applying the Advisory Council on Historic Preservation's criteria of adverse effect, the NPS finds that implementation of the Preferred Alternative will have a no adverse effect on historic properties. The SHPO has concurred with the NPS finding of no adverse effect.

Degree to which effects on the quality of the human environment are likely to be highly controversial: There were no highly controversial effects identified during either preparation of the EA or the public review period.

Degree to which the possible effects on the quality of the human environment are highly uncertain or involve unique or unknown risks: There were no highly uncertain, unique or unknown risks identified during either preparation of the EA or the public review period.

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 Preferred Alternative neither establishes a NPS precedent for future actions with significant effects nor represents a decision in principle about a future consideration.

Whether the action is related to other actions with individually insignificant but cumulatively significant impacts: No other significant or insignificant actions related to the Preferred Alternative were identified in the EA relating to wetland, coastal upland ecosystem and dune ecosystem resources, state protected species of special concern, visitor and staff safety, and visitor use and experience.

The Selected Alternative would contribute a long-term, moderate, beneficial increment to overall cumulative impacts to Seashore wetland and upland ecosystems.

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: The Selected Alternative will neither adversely affect districts, sites, highways, structures or objects listed on the National Register of Historic Places nor cause loss or destruction of significant scientific, cultural, or historical resources.

As per the Advisory Council on Historic Preservation's regulations 36 CFR Part 800, NPS notified the Massachusetts Historical Commission and the Wampanoag Tribe of Gay Head-Aquinnah to use the NEPA process to comply with Section 106 of the National Historic Preservation Act

Degree to which the action may adversely affect an endangered or threatened species or its critical habitat: As described in the EA, federally protected species or critical habitats are known to occur in the project area; but the Selected Alternative will not adversely impact federally protected species or critical habitat.

The Selected Alternative will have minor short-term adverse impacts to state protected species of special concern. These impacts are related to potential habitat infringement during the fire management/mowing period, which will be mitigated with common practices.


Whether the action threatens a violation of federal, state, or local environmental protection law: The Selected alternative violates no federal, state, or local environmental protection laws.

Determination of Impairment to Park Resources

The NPS has determined that implementation of the selected alternatives will not constitute an impairment to the park's resources or values or violate the NPS Organic Act. This conclusion is based on a thorough analysis of the environmental impacts described in the EA, and the professional judgment of the decision-maker guided by the direction in *NPS Management Policies 2001*. It has been determined that there will be no impairment to park resources or value based on the following considerations. The project is: a) necessary to fulfill specific purposes identified in the establishing legislation of the park; b) key to the natural and cultural integrity of the park or to opportunities for enjoyment of the park; and, c) identified as a goal in the *General Management Plan* and other relevant NPS planning documents. Thus, there would be no impairment to park resources, but instead there will be enhancement of resources as a result of this project.

Finding of No Significant Impact

The selection of Alternative 2 -- *Increased Use of Mechanical and Prescribed Fire Treatments* will not constitute a major federal action that would have significant impacts on the human environment pursuant to Section 102 of NEPA (1969), therefore, an environmental impact statement will not be prepared.



George E. Price, Jr.
Superintendent, Cape Cod National Seashore

Concurred:



Chrysandra L. Walter
Acting Regional Director, Northeast Region

Enclosure (Environmental Assessment, December 2005)