



Jean Lafitte National Historical Park and Preserve

**Fire Management Plan
2004**

2004 Fire Management Plan
Jean Lafitte National Historical Park and Preserve
Louisiana

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1.0 INTRODUCTION

1.1 Reason for Development of Fire Management Plan

National Park Service (NPS) policy (*Director's Order #18: Wildland Fire Management*, website <http://www.fire.nps.gov/fire/policy/do18/do18.htm>) requires that every park unit with burnable vegetation develop a Fire Management Plan (FMP) approved by the park superintendent. The FMP serves as a detailed and comprehensive program of action to implement fire management policy principles and goals, consistent with the unit's resource management objectives. This plan outlines the fire management program at Jean Lafitte National Historical Park and Preserve (hereinafter referred to as either the "park" or by NPS alpha code "JELA"). The JELA fire management program, guided by federal policy and the park's resource management objectives, will serve to protect life, property, and natural and cultural resources.

This FMP pertains specifically to the Barataria Preserve Unit and the battlefield portion of the Chalmette Unit, the two park areas with vegetation that could support wildland fire. Structural fires within these areas or within any other park units will be addressed in a structural fire plan, in accordance with Director's Order #58.

1.2 Collaborative Processes

In addition to administering JELA, the National Park Service collaborates with the U.S. Fish and Wildlife Service; the U.S. Army Corps of Engineers; the U.S. Geological Survey (the Biological Resources and Water Resources divisions); the Louisiana Department of Natural Resources; the State Historic Preservation Office; the Jefferson, Lafayette, Lafourche, Orleans, St. Bernard, and St. Landry parish governments; the Delta Regional Preservation Commission; the West Jefferson Levee District; and park neighbors.

Collaborative opportunities pertaining to fire management at JELA include coordination with the U.S. Fish and Wildlife Service, the Lafitte-Crown Point Volunteer Fire Department, the St. Bernard Parish Fire Department, and local law enforcement.

1.3 Implementation of Fire Management Policy

The organizational structure of this FMP follows the outline furnished in chapter 4 of *Wildland Fire Management Reference Manual-18* (version 3.0, 11/05/02), hereinafter referred to as *RM-18* (website <http://www.fire.nps.gov/fire/policy/rm18/index.htm>). This FMP will guide the park in implementing federal fire management policy and resource and fire management goals as defined in the *2001 Federal Fire Policy; Managing Impacts of Wildfires on Communities and the Environment, and Protecting People and Sustaining Resources in Fire-Adapted Ecosystems—A Cohesive Strategy*; and *A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment: 10-Year Comprehensive Strategy Implementation Plan*.

1.3.1 2001 Federal Fire Policy

The 1994 fire season with its 34 fatalities triggered a series of reports under the rubric FIRE 21, including the *1995 Federal Wildland Fire Management Policy and Program Review*. This review, the first comprehensive federal fire policy for the Departments of Agriculture and the Interior, provided direction for fire management programs and activities, including such areas as safety, protection priorities, preparedness, suppression, wildland fire use, prevention, and wildland-urban interface roles and responsibilities. Following the escape of the Cerro Grande Prescribed Fire in May 2000, the *1995 Federal Fire Policy* was evaluated and revised in the *2001 Review and Update of the 1995 Federal Wildland Fire Management Policy (2001 Federal Fire Policy)*. The *2001 Federal Fire Policy* finds no fundamental flaws in the 1995 document. It builds on the *1995 Federal Fire Policy*, and addresses issues not fully covered in 1995, including rehabilitation and restoration of burned lands, the importance of sound science driving fire management activities, and the need for the full range of fire management activities to achieve ecosystem sustainability.

The *2001 Federal Fire Policy* states that “...successful implementation of 2001 Federal Fire Policy depends on the development and implementation of high-quality Fire Management Plans by all land managing agencies.” The policy is founded on the following guiding principles:

1. Firefighter and public safety is the first priority in every fire management activity.
2. The role of wildland fire as an essential ecological process and natural change agent will be incorporated into the planning process.
3. Fire management plans, programs, and activities support general and resource management plans and their implementation.
4. Sound risk management is a foundation for all fire management activities.
5. Fire management programs and activities are economically viable, based upon values to be protected, costs, and general and resource management objectives.
6. Fire management plans and activities are based upon the best available science.
7. Fire management plans and activities incorporate public health and environmental quality considerations.
8. Federal, State, tribal, local, interagency, and international coordination and cooperation are essential.
9. Standardization of policies and procedures among Federal agencies is an ongoing objective.

1.3.2 Managing Impacts of Wildfires on Communities and the Environment, and Protecting People and Sustaining Resources in Fire Adapted Ecosystems—A Cohesive Strategy

The *Cohesive Strategy* was developed by the USDA National Forest Service, the US Department of the Interior, and the National Association of State Foresters, in response to the 2000 fire season, during which more than 6.8 million acres of public and private lands burned—more than twice the 10-year national average. The magnitude of these fires was attributed to severe drought, accompanied by a series of storms that produced thousands of lightning strikes followed by windy conditions; and the long-term effects of almost a century of aggressively suppressing all wildfires, resulting in an unnatural buildup of brush and small trees throughout forests and

rangelands. The *Cohesive Strategy* provides an overall framework for implementing fire management and forest health programs. It is based upon the following operating principles:

- ❖ **Firefighting Readiness:** Increase firefighting capability and capacity for initial attack, extended attack, and large fire support that will reduce the number of small fires becoming large, to better protect natural resources, to reduce the threat to adjacent communities, and reduce the cost of large fire suppression.
- ❖ **Prevention Through Education:** Assist state and local partners to take actions to reduce fire risk to homes and private property through programs such as FIREWISE.
- ❖ **Rehabilitation:** Focus rehabilitation efforts on restoring watershed function, including the protection of basic soil, water resources, biological communities, and prevention of invasive species.
- ❖ **Hazardous Fuel Reduction:** Assign highest priority for hazardous fuels reduction to communities at risk, readily accessible municipal watersheds, threatened and endangered species habitat, and other important local features, where conditions favor uncharacteristically intense fires.
- ❖ **Restoration:** Restore healthy, diverse, and resilient ecological systems to minimize uncharacteristically intense fires on a priority watershed basis. Methods will include removal of excessive vegetation and dead fuels through thinning, prescribed fire, and other treatment methods.
- ❖ **Collaborative Stewardship:** Focus on achieving the desired future condition on the land in collaboration with communities, interest groups, and state and federal agencies. Streamline process, maximize effectiveness, use an ecologically conservative approach, and minimize controversy in accomplishing restoration projects.
- ❖ **Monitoring:** Monitor to evaluate the effectiveness of various treatments to reduce unnaturally intense fires while restoring forest ecosystem health and watershed function.
- ❖ **Jobs:** Encourage new stewardship industries and collaborate with local people, volunteers, Youth Conservation Corps members, service organizations, and Forest Service work crews, as appropriate.
- ❖ **Applied Research and Technology Transfer:** Focus research on the long-term effectiveness of different restoration and rehabilitation methods to determine those methods most effective in protecting and restoring watershed function and forest health. Seek new uses and markets for byproducts of restoration.

1.3.3 A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment: 10-Year Comprehensive Strategy Implementation Plan

In August, 2001, the Secretaries of Agriculture and the Interior joined the Western Governor's Association, National Association of State Foresters, National Association of Counties, and the Intertribal Timber Council to endorse *A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment: 10-Year Comprehensive Strategy*. This report marked the initial fulfillment of two key Congressional directives that:

- ❖ The Secretaries of the Interior and Agriculture and the Governors jointly develop a long-term national strategy to address the wildland fire and hazardous fuels situation and the needs for habitat restoration and rehabilitation; and
- ❖ The strategy should be developed with "close collaboration among citizens and governments at all levels."

The four goals of the *10-Year Comprehensive Strategy* are:

1. Improve fire prevention and suppression
2. Reduce hazardous fuels
3. Restore Fire-Adapted Ecosystems
4. Promote community assistance

Its three guiding principles are:

1. Priority setting that emphasizes the protection of communities and other high-priority watersheds at risk
2. Collaboration among governments and broadly representative stakeholders
3. Accountability through performance measures and monitoring for results

1.4 Environmental Compliance

In association with this plan, a categorical exclusion (*DO-12 Appendix 2*) that meets the requirements of the National Environmental Policy Act is included as Appendix 13.4.

1.5 Authorities for Implementing Fire Management Plan

Authority for fire management at the park originates with the Organic Act of 1916. The Organic Act established the National Park Service "to promote and regulate the use of the Federal areas known as national parks,...which purpose is to conserve the scenery and the natural and historic objects and the wild life 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."

The 1978 "Redwood amendment" to the General Authorities Act of 1970 expands upon the provisions of the Organic Act, stating that, "...the protection, management, and administration of these [Park Service] areas shall be conducted in light of the high public value and integrity of the

National Park System and shall not be exercised in derogation of the values and purposes for which these various areas have been established...”

As an NPS fire management program by design tiers to the respective park unit’s general and resource management objectives, fire management is an effective way of accomplishing the mandates of the above legislation.

2.0 RELATIONSHIP TO LAND MANAGEMENT PLANNING AND FIRE POLICY

2.1 Federal Fire Management Policy

The *2001 Federal Fire Policy*, discussed in section 1.3.1, is the product of a collaborative effort involving the U.S. Department of the Interior, the U.S. Department of Agriculture, the Department of Energy, the Department of Defense, the Department of Commerce, the U.S. Environmental Protection Agency, the Federal Emergency Management Agency, and the National Association of State Foresters. The report recognizes the role that fire plays as a critical natural process, as well as the detrimental effects of its absence in fire-adapted ecosystems.

2.2 Establishment of Jean Lafitte National Historical Park and Preserve

The National Park System consists of more than 380 units representing our country’s finest natural and cultural assets. Jean Lafitte National Historical Park and Preserve was established by an act of Congress on November 10, 1978 (Public Law 95-625 in order to “...preserve for the education, inspiration, and benefit of present and future generations significant examples of natural and historical resources of the Mississippi Delta region and to provide for their interpretation in such a manner as to portray the development of cultural diversity in the region.” In 1988, the enabling legislation was amended by Public Law 100-250 to authorize the establishment of folklife centers in the Acadian region.

The enabling legislation for the park defined the region of concern as the Mississippi Delta. During the course of developing the park’s 1982 General Management Plan, the area of concern was further defined to cover much of the southern half of Louisiana—from Alexandria south to the Gulf Coast, and from the Mississippi state line west to beyond the town of Lafayette. As the mouth of the Mississippi River and the gateway to the interior of the North America continent, the region has long been a focus of economic, political, and cultural activities.

The Mississippi River drains the fourth largest basin in the world, and the wetlands of the Delta are among the most extensive and productive in the United States. Significant natural areas in the Delta region are home to unusual biological communities and rare species, and they exhibit unique geological formations.

Figure 1: General Location Map

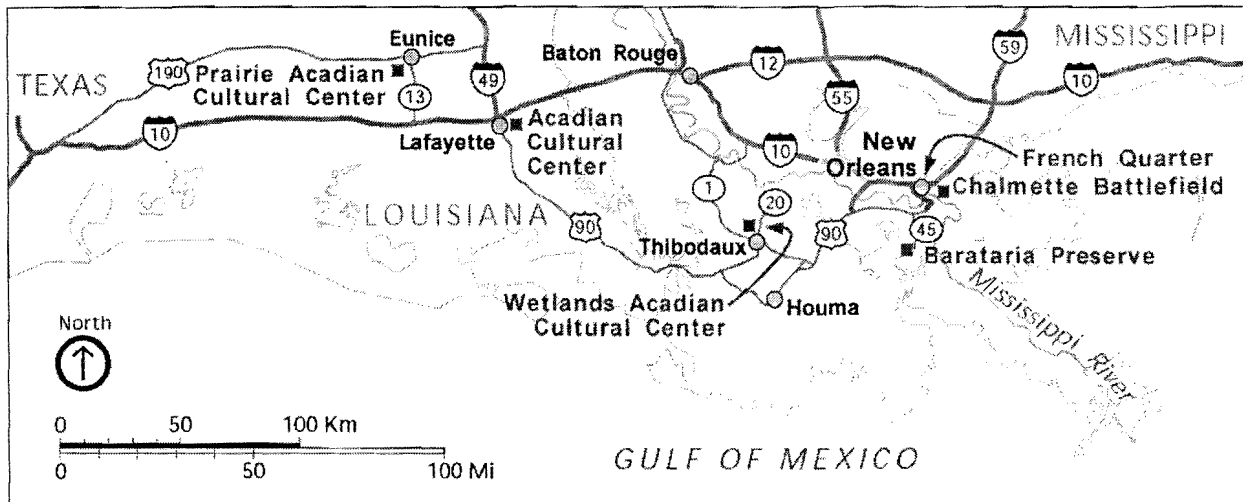


Figure 2a: Barataria Preserve Unit

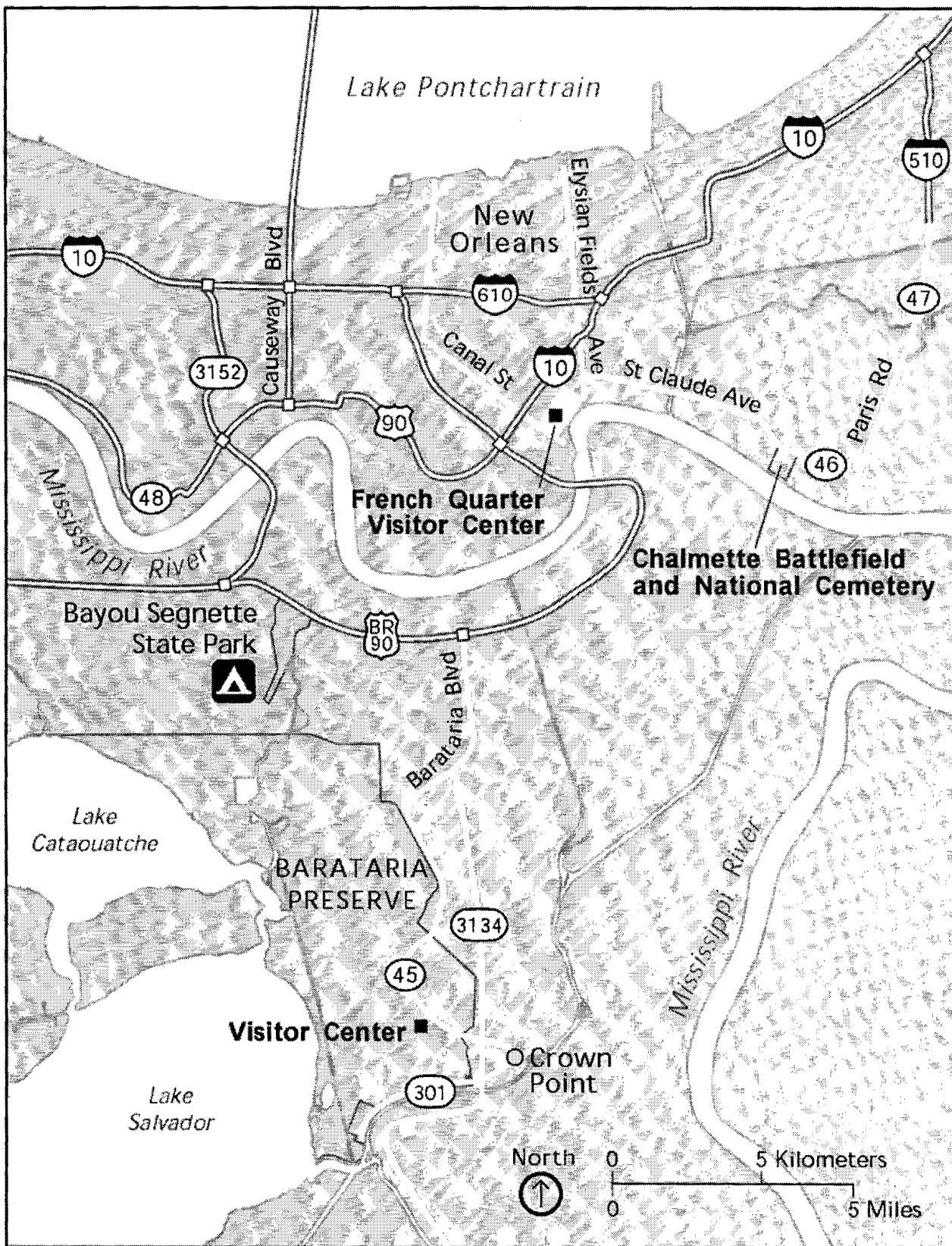
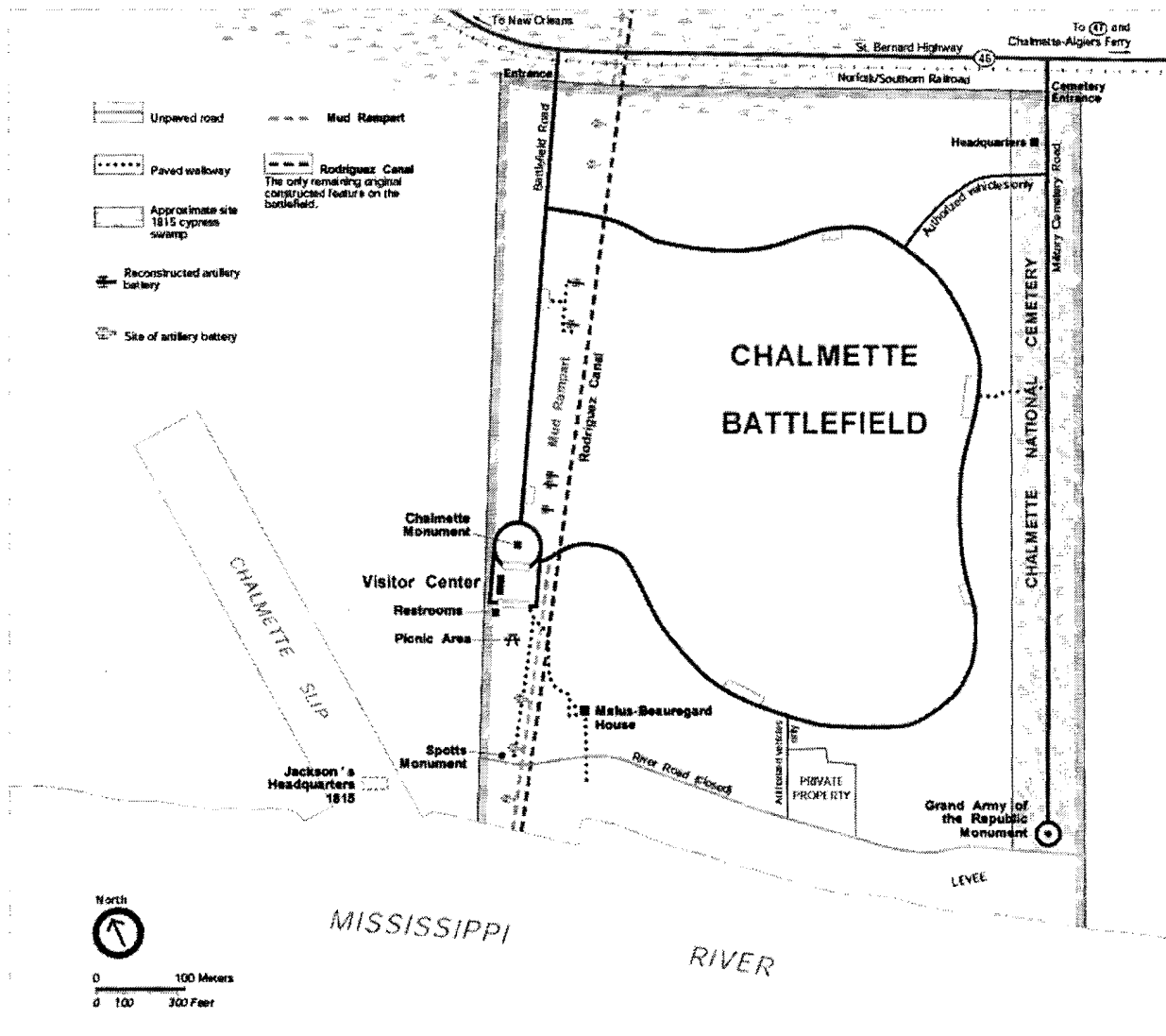


Figure 2b: Chalmette Unit



2.3 General Management Plan Objectives

The 1995 amendment to the park's 1982 General Management Plan includes the following natural and cultural resource management objectives:

❖ Natural Resources Management

- Recognize the regional ecosystem context of park units and coordinate with other resource management entities.
- Establish baseline data for understanding ecosystems and for developing natural resource management programs.

- Protect representative natural communities.
- Establish or maintain native wildlife populations representative of natural conditions.
- Manage the Barataria Preserve unit as a natural area.
- Determine the role of fire in the natural ecosystem and establish a fire management program.

❖ Cultural Resources Management

- Provide contextual background for the cultural resources of the park by establishing baseline data through research and surveys.
- Preserve sites and structures of or directly related to the park.
- Accomplish these objectives in close cooperation and coordination with the cultural groups affected by using the federal consultation process.

2.4 Resource Management Plan Objectives

The park's 1997 Resource Management Plan (RMP) states that JELA's overriding resource management goals are:

- ❖ To protect representative examples of the natural and historical resources of Louisiana's Mississippi River Delta Region and adjacent areas of Acadiana through ownership and conservation by NPS, and by partnerships which promote such protection.
- ❖ To provide the means and opportunities for people to experience those resources and to understand how they contributed to the development of a unique culture.

The RMP includes the following natural and cultural resource management objectives:

❖ Natural Resources

- Manage the Barataria Preserve as a natural area while continuing to protect cultural resources.
- Manage the other sites in the park in harmony with natural processes to the maximum extent possible.
- Manage the preserve within the context of its broader ecosystem and coordinate management in conjunction with other resource management entities.
- Establish baseline data for understanding ecosystems and for developing natural resource management programs.

- Protect natural resource communities.
- Re-establish or maintain native wildlife populations representative of natural conditions.
- Identify and seek means for protecting such other natural resources within the delta region as appropriate.

❖ Cultural Resources

- Stabilize, monitor and document known cultural resources including sites, historic structures, artifact collections, museum objects, archives, and the park library.
- Inventory, stabilize and monitor unrecorded cultural resources.
- Maintain historic structures.
- Identify and seek means for protecting such other cultural resources within the delta region as are found to be appropriate.

2.5 How Fire Management Plan Supports General Management Plan and Resource Management Plan Objectives

Principle #3 of the *2001 Federal Fire Policy* states that “fire management plans, programs, and activities [will] support general and resource management plans and their implementation.” This Fire Management Plan serves as a detailed and comprehensive program of action to implement federal fire management policy principles and goals, which in turn support the park’s General Management and Resource Management Plan objectives, as well as its enabling legislation. Specifically:

- ❖ Wildland fire suppression will serve to protect human life, property, and natural and cultural resources from the adverse effects of unwanted fire.
- ❖ Maintaining existing defensible space around park buildings and sensitive cultural and natural sites will serve to protect them in the event of a wildland fire.

3.0 WILDLAND FIRE MANAGEMENT STRATEGIES

3.1 General Management Considerations

The park’s fire management goals, which follow, incorporate JELA’s overall management objectives as well as previously-discussed federal fire management policy principles and goals, including firefighter and public safety, collaboration, and accountability.

3.2 Wildland Fire Management Goals

Fire management goals at JELA are:

- ❖ 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.
- ❖ Use non-fire applications (mowing, weedeating) to maintain existing defensible space around park buildings and sensitive cultural and natural sites.
- ❖ Manage all wildland fire incidents in accordance with accepted interagency standards, using appropriate management strategies and tactics, and maximizing efficiency via interagency coordination and cooperation.
- ❖ Coordinate with federal, state, and local agencies in order to facilitate close working relationships and mutual cooperation regarding fire management activities.
- ❖ Develop and conduct a monitoring program with recommended standard monitoring levels commensurate with the scope of the fire management program, and use the information gained to continually evaluate and improve the fire management program.
- ❖ Integrate knowledge gained through natural resource research into future fire management decisions and actions.
- ❖ Maintain the highest standards of professional and technical expertise in planning and safely implementing an effective fire management program.
- ❖ Plan and conduct all fire management activities in accordance with all applicable laws, policies and regulations.
- ❖ Incorporate the minimum impact suppression tactics policy into all suppression activities, to the greatest extent feasible and appropriate.
- ❖ Minimize the potential for human-caused wildland fires via the implementation of fire prevention activities, including public education.

3.3 Scope of Wildland Fire Management Elements to be Implemented

JELA will implement a combination of wildland fire suppression and non-fire applications. Prescribed fire will not be used at the park at this time.

3.3.1 Wildland Fire Suppression

A wildland fire is defined as any nonstructural fire, other than prescribed fire, that occurs in the wildland. All wildland fires at JELA, regardless of origin, will be suppressed.

3.3.2 Non-Fire Applications

JELA will use non-fire applications (the continued practice of mowing and weedeating) to maintain existing defensible space around park buildings and sensitive cultural and natural sites.

3.4 Park Description

JELA has been divided into two fire management units (FMUs) to facilitate the achievement of fire management objectives. A description of the general physical and biotic characteristics of the park, below, is followed by descriptions of the FMUs.

3.4.1 Physical and Biotic Characteristics

3.4.1.1 Real Property

As per the 1995 amendment to the park's 1982 General Management Plan,

The organizational structure of Jean Lafitte National Historical Park and Preserve is based on a "unit management" concept. Management of the park is headquartered in New Orleans' Vieux Carre, or French Quarter. This office provides technical services and program oversight to four management units: Acadian, Barataria Preserve, Chalmette, and New Orleans. The units are geographically dispersed throughout south Louisiana and each represents a unique aspect of the Mississippi Delta region.

As previously stated, this FMP pertains specifically to the Barataria Preserve Unit and the Battlefield portion of the Chalmette Unit, the two areas of the park with vegetation that could support wildland fire. These areas total 10,528 acres in size.

- ❖ Barataria Preserve Unit: This unit is located about 15 miles to the south of New Orleans, bordering Lake Salvador and Bayou Barataria. The NPS currently owns approximately 10,385 acres within the legislative boundary of 18,378 acres. The Mississippi River Delta is an area of dynamic geological processes and highly productive ecosystems. The unit contains a representative sample of the Delta's underlying physical structure and the diverse natural habitats built thereon. It also contains evidence of a succession of human occupations dating back to the very creation of the land by deltaic processes 2,500 years ago. It compliments the other units of the park and fulfills the park's mission by helping to preserve an important part of the Delta, and by providing a framework for interpreting the interrelationship between culture and environment that has shaped this region.
- ❖ Chalmette Battlefield: Part of the larger Chalmette Unit, the 143-acre Chalmette Battlefield is located about four miles downriver from the French Quarter. Its purpose is to commemorate the victory of American forces over the British in 1815, in the culminating battle of the War of 1812. This victory preserved the nation's fledgling hold upon the Louisiana Territory, and made westward expansion possible during the 19th century. Chalmette was established as a unit of the National Park System in 1933, and thus predates the 1978 legislation authorizing JELA.

3.4.1.2 Soils

- ❖ Barataria Preserve Unit: This unit contains four major soil types: Sharkey-Commerce, Barbary, Kenner-Allemands, and Lafitte-Clovelly. The Sharkey-Commerce soils are firm mineral soils associated with the natural levee and silted river channel and are the best for development and agriculture. Barbary soils are semifluid mineral soils deposited on the backslope of the natural levee and associated with swamps. Kenner-Allemands soils consist of thick organic layers underlain with thin clays, and are associated with freshwater marshes. Lafitte-Clovelly soils are semifluid organic soils associated with more saline intermediate marshes. These other soils are generally poorly suited for development and will not readily support foot traffic. Only the Sharkey-Commerce soils could be considered prime farmland, but, due to subsidence, high water tables, and frequency of flooding, the soils in this unit are generally unsuitable for agriculture.
- ❖ Chalmette Battlefield: The battlefield soils are in the Commerce series, which are considered prime agricultural soils.

3.4.1.3 Air Quality

The park area is designated a class II air shed under the 1977 amendments to the Clean Air Act. Under class II, modest increases in air pollution are allowed beyond baseline levels for particulate matter, sulfur dioxide, nitrogen and nitrogen dioxide, provided that the national ambient air quality standards, established by the Environmental Protection Agency (EPA), are not exceeded.

No air resources information has been collected for the park.

3.4.1.4 Water Resources and Water Quality

- ❖ Barataria Preserve Unit: This unit is located in the upper freshwater zone of the Barataria-Terrebonne Estuary, the largest and most productive estuary in the United States. This broad, low-lying estuary is situated between the two active distributary arms of the Mississippi River, and contains within it several sub-deltaic lobes (subdeltas) built and abandoned by distributary arms of the river over the last 5,000 years. The preserve is situated on the Bayou des Familles-Bayou Barataria lobe, which was occupied and built from roughly 3,500 to 1,500 years ago. An abandoned arm of the river, Bayou des Familles, forms the backbone of the preserve. Once a third of a mile wide and carrying a third of the river's flow, it is now a narrow tidal stream. Its channel was filled in by sediments as the river slowly abandoned the Bayou des Familles course. The filled streambed is flanked by natural levees, reaching an elevation of about five feet above mean sea level, which were formed by deposition of sediment during annual spring floods.

More than 95 percent of the Barataria Preserve Unit is wetlands. The U.S. Fish and Wildlife Service's National Wetlands Inventory (1992) has mapped the area, and approximately 40 percent of the unit is classified as a palustrine emergent wetland. Other major wetland types include palustrine forested, palustrine scrub-shrub, and estuarine intertidal emergent.

The NPS Water Resources Division has established a Baseline Water Quality Data Inventory and Analysis for the Barataria Preserve and the surrounding area. This resource compiles approximately 127,000 observations for 364 different water quality parameters collected in and around the unit. The record provides an historical database for most parameters of concern. As funds and staffing allow, the park maintains a biweekly monitoring program for 11 sites within and near the unit. This program measures salinity, specific conductance, temperature, turbidity, and dissolved oxygen.

- ❖ Chalmette Battlefield: Located on the natural river levee, the battlefield area is almost flat, with an elevation of 10 feet above mean sea level (amsl) except for the man-made levee, which is 20 feet amsl. Because of the man-made levee, most of the Chalmette Unit is outside of the 100-year floodplain. No wetlands have been identified within the battlefield.

3.4.1.5 Vegetation

- ❖ Barataria Preserve Unit: The natural communities of the unit fall into three broad types: hardwood forest, associated with natural levee ridge; back-slope swamp, and interlevee marsh. Characteristic ecological communities occupy each of these habitats, with over 340 species of native vascular plants identified thus far within the unit.

On ribbons of firm natural levee alluvial soils, the only ground above sea level, a hardwood forest of ridge and bottomland species grows that includes live oak, water oak, American elm, hackberry, green ash, red maple, and sweetgum. Palmetto is frequently within the understory, as well as hawthorne and holly, with complex associations of vines and epiphytes.

On the back-slopes of these natural levees, where the soils are inundated much of the year, grows a swamp forest that consists of bald cypress and tupelo gum, in association with black willow, red maple, pumpkin ash. Palmetto and wax myrtle occur within the understory.

The unit's marshes occur beyond the swamps, where alluvial soils have subsided well below sea level. Above this sunken surface, generations of marsh plants have created a layer of peat, often many feet thick. The peat supports a unique floating marsh characterized by annual sedges, rushes, and forbs, known as flotant. In places the flotant is so thick that it supports a unique floating community of shrubs and small trees. (Fire exclusion, particularly since NPS acquisition of the Barataria Preserve, has resulted in a marked increase in the shrub component, particularly wax myrtle.) Marshes here are either intermediate, growing in slightly brackish water, or freshwater. Intermediate marshes adjoin the shoreline of Lake Salvador, along the western side of the unit, and appear to be expanding, due to subsidence and the resultant saltwater intrusion. They contain bulltongue, wiregrass, and three-cornered grass. In freshwater marshes, predominate species include bulltongue, maidencane, softstem bullrush, pennywort, iris, smartweed, and spikerush.

Many exotic plant species have been documented within the unit. Of these, several are considered species of management concern: water hyacinth (*Eichhornia crassipes*), water spangle (*Salvinia minima*), alligator weed (*Alternanthera philoxeroides*), Chinese tallow

(*Sapium sebiferum*), Johnson grass (*Sorghum halapense*), and hydrilla (*Hydrilla verticillata*), among others.

- ❖ Chalmette Battlefield: The battlefield is predominantly an open grassy field; the grass can reach several feet in height.

For the Barataria Preserve Unit, NFDRS fuel model E best represents the ridge hardwood forest after leaf fall, and fuel model R best represents the same after canopy leaf out. Fuel model N best represents the majority of the marsh vegetation, with fuel model O best representing patches of marsh vegetation where a tall shrub component (primarily wax myrtle) also exists. Swamp forest should not support fire due to the standing water and discontinuous fuels.

NFDRS fuel model L best represents the grass cover at the Chalmette Battlefield.

See section 3.4.4.3 for a discussion of fuel models and fire behavior. See Figure 3 for a general delineation of NFDRS fuel models within the Barataria Preserve Unit.

Appendix 13.3 includes a list of known park flora.

3.4.1.6 Wildlife

- ❖ Barataria Preserve Unit: Each of the unit's plant communities supports characteristic fauna. Subtropical warmth, high rainfall, and fertile soils combine to create a highly productive ecosystem, with some 380 species of vertebrate animals thus far identified within the unit. Invertebrate primary consumers, including crawfish, crabs, and shrimp, help anchor an intricate food chain that supports the more visible wildlife. The area is rich in other estuarine organisms, including clams; larval oysters; brown, white, and river shrimp; blue crabs; and red swamp crayfish.

At least 45 species of both freshwater and saltwater fish have been recorded, including gar, bowfin, mosquitofish, killifish, catfish, largemouth bass, other sunfish, eels, redbait, and spotted sea trout. Twenty-three species of amphibians are known, including sirens, amphiumas, newts, semi-terrestrial salamanders, toads, five species of tree frogs, and four species of true frogs. Forty-three species of reptiles include the American alligator; five species of turtles, including the alligator snapping turtle; five species of lizards; and 22 species of snakes, among them the endemic delta subspecies of black-masked racer. Over 240 species of birds are known, including wading birds nesting in rookeries; wintering ducks and geese; raptors; shorebirds; owls; and 115 species of neotropical migrants, 28 species of which nest. Thirty species of mammals are known, including armadillo, squirrel, swamp rabbit, mink, otter, beaver, raccoon, opossum, coyote, muskrat, nutria, white-tailed deer, and various bats.

- ❖ Chalmette Battlefield: Species include squirrel, rabbit, white-tailed deer, coyote, raccoon, and various reptiles.

Appendix 13.3 includes a list of known park fauna.

3.4.1.7 Threatened and Endangered Species

No federally-listed threatened or endangered plant species are known to occur at the Chalmette Battlefield. The following federally-listed animal species are recorded to occur within or near the Barataria Preserve Unit: the brown pelican (*Pelicanus occidentalis*), endangered, which occasionally wanders to Lake Salvador from its habitat in lower Barataria Bay; least tern (*Sterna antillarum*), endangered, an uncommon migrant, individuals of which are presumed to be from the endangered interior population (*S. a. athalassos*); bald eagle (*Haliaeetus leucocephalis*), threatened, an uncommon migrant and regular winter visitor; and American alligator (*Alligator mississippiensis*), threatened due to similarity of appearance to a threatened taxon. No designated critical habitat for any federally-listed species occurs at JELA.

3.4.1.8 Cultural and Historic Resources

- ❖ Barataria Preserve Unit: As per the 1995 amendment to the park's General Management Plan, JELA contains over 100 archeological sites, the majority of which are located within the Barataria Preserve Unit. This fertile estuarine system has provided a rich matrix for humans throughout its short geologic existence. Within the unit, prehistoric sites represent a nearly complete chronology of habitation within the Mississippi Delta dating back more than 2,000 years. (No Paleo-Indian sites have been recorded for the Delta region; rising sea level covered most of the present-day shoreline, either precluding human occupation or inundating sites that may have existed.) Recorded sites within the unit include major midden complexes (Bayou Coquille, Isle Bonne, Cheniere Grand Coquille), an 18th century Canary Islanders village, and properties associated with 19th century agriculture. Many of the archeological sites are contributing elements of the Barataria Historic District, listed on the National Register of Historic Places.

Historic sites include Isleño house sites from the late 18th century, colonial and plantation era agricultural remains, a late 19th and 20th century commercial swamp logging canal system, the ditch system excavated by trappers (trenasses) in the mid-20th century, and 20th century oil and gas exploration roads and canals. The early sites are contributing elements of the Barataria Historic District, listed on the National Register of Historic Places.

Numerous archeological studies associated with the Barataria Preserve have been completed. These include investigations relating to the Kenta Canal, Big Woods area, and Barataria trail system (including Coquille Trail). In 1986, Speake completed the report entitled *Archaeological Assessment of the Barataria Unit. Terre Haute de Barataria, An Historic Upland on an Old River Distributary Overtaken by Forest in the Barataria Unit of the Jean Lafitte National Historical Park and Preserve* (Swanson 1991) is a revision and enlargement of an historic land use study conducted in 1985-88. This study "details the historic land ownerships and uses, and the resulting human alterations to the natural environment which can be seen in the park today." It was jointly funded by the NPS and Jefferson Parish.

- ❖ Chalmette Battlefield: This property represents a portion of the site on which the Battle of New Orleans was fought between American and British forces on January 8, 1815. During the battle, the victorious American cause was aided by Jean Lafitte's men, who offered their

services in return for pardons for their past smuggling activities. The battle brought fame to General Andrew Jackson and helped give a fledgling nation permanency.

Portions of the American defense line and the fields of the Chalmette Plantation are located within the boundary. Also located on the battlefield is the Malus-Beauregard House, built as a country home approximately 18 years after the battle. Other parts of the battlefield have been lost to the river or other encroachments. The site is listed on the National Register of Historic Places.

The Chalmette Monument is a 100-foot-tall marble obelisk overlooking the battlefield. It was planned in 1840, following a visit by Andrew Jackson on the 25th anniversary of the battle and built between 1855 and 1909. Chalmette National Cemetery, which itself occupies a portion of the former battlefield, was established in 1864 as a burial ground for Federal soldiers of the Civil War and subsequent wars. It is located along the eastern side of the battlefield. As a managed landscape, it does not contain vegetation that will support wildland fire.

An Annotated Archival Source Listing Relevant to the Archaeological, Architectural and Historical Interpretation of the Rodriguez Plantation Buildings was completed in 1984. Archeological reports pertaining to excavations conducted on the Chalmette Battlefield are also available at the park. The *Chalmette Battlefield and Chalmette National Cemetery Cultural Landscape Report* (Risk 1991) provides treatment recommendations for the Chalmette Battlefield and Chalmette National Cemetery and their associated features.

The park museum collection contains approximately 160,000 objects, divided into two major categories: natural history and cultural collections. The cultural collection is subdivided into three disciplines: archeology, history and ethnology. Archeological objects include prehistoric shell, ceramics, and faunal fragments; and historic artifacts dating to the 18th, 19th, and 20th centuries. Curatorial storage is located at the park headquarters building in New Orleans and at the Southeast Archeological Center in Tallahassee.

3.4.2 Management Considerations

- ❖ Ensure that firefighter and public safety remains the primary consideration in planning and conducting all fire management activities.
- ❖ Ensure that archeological/cultural/historic resources are considered in planning and conducting all fire management activities.
- ❖ Ensure that smoke management is considered in planning and conducting all fire management activities.
- ❖ Ensure that all applicable laws, policies and regulations are considered in planning and conducting all fire management activities.

- ❖ Ensure that socio-political economic impacts, including wildland urban interface, are considered in planning and conducting all fire management activities.
- ❖ Ensure that appropriate fire prevention and suppression actions are addressed in the right-of-way plans of development/vegetation management/contingency documents associated with and required for electrical transmission lines located on agency land.
- ❖ Ensure that fire management activities are coordinated as appropriate with all affected parties. This includes any federally recognized Indian tribes that have historical, cultural, economic or other interests in the proposed action or its effects (required, for example, by 36 CFR 800, 40 CFR 1508, and 43 CFR 10).

3.4.3 Past Role of Fire

Ecological and meteorological evidence indicates that lightning-caused fires were a major environmental force shaping the vegetation of North America for millions of years prior to human habitation (Van Lear and Waldrop 1989). Fire-adapted ecosystems developed, as did individual plant species dependent upon or adapted to wildland fire. According to fire ecologist Dr. Cecil Frost (1998), "...fire once played a role in shaping all but the wettest, the most arid, or the most fire-sheltered plant communities of the United States."

While it is difficult to substantiate purposeful landscape burning by American Indians from the archeological record, diaries, letters, reports, and books by eyewitnesses of Indian fire use from the 1600s to the 1900s have yielded considerable evidence that American Indians did use fire to modify ecosystems (Barrett 1980, 1981; McClain and Elzinga 1994; Russell 1983; Whitney 1994), with profound cumulative effects on the landscape. At the time of European contact, many eastern deciduous forests were open and park-like, with little undergrowth (Bonnicksen 2000, Day 1953, Olsen 1996). Says Charles Kay (2000), "...the only way for eastern forests to have displayed the open-stand characteristics that were common at European settlement is if those communities had regularly been burned by native people as part of aboriginal land management activities."

As per chapter 25 (Background Paper: Fire in Southern Forest Landscapes) of the USDA Forest Service General Technical Report entitled *The Southern Forest Resource Assessment Summary Report* (2002):

To appreciate the pervasive role of fire in shaping southern forests requires an understanding of the dynamic response of southern ecosystems to climate change since the retreat of the Laurentide Ice Sheet, which began around 18,000 years ago, and the extent of human influence, which likely began about 14,000 years ago. Humans exert an influence by igniting or suppressing fires. Native Americans used fire extensively for thousands of years. The early European settlers continued and to a degree expanded the use of fire. In the last century, however, human influence over fire in the South changed markedly.

We have divided the long history of fire since humans arrived in the South into five periods:

- ❖ From the earliest appearance of humans in North America around 14,000 years ago (Fagan 2000) until European contact 500 years ago, the first period was one of increasing human population level and more extensive use of fire.
- ❖ For the first 400 years after their arrival, the early European settlers continued to use fire in much the same way as Native Americans, often reoccupying and farming land cleared by Native Americans and expanding burning of woodlands to provide forage for livestock (Williams 1992).
- ❖ At the end of the 19th century and extending into the 20th century, the remaining southern forests were extensively logged to support economic expansion; wildfires were common in the slash left behind. In reaction to these widespread and destructive wildfires, the fourth period of fire suppression started in the early 1900s.
- ❖ The current period is one of fire management, in which the natural role of fire is increasingly recognized and incorporated into forest management.

As per the Shared Application Computer System (hereinafter referred to as SACS), there have been no documented wildland fires within park boundaries. However, park fire management officer Lee Zahm recalls three wildland fires that occurred at the Barataria Preserve Unit in 1999, 2001, and 2002 (9/8/04 telephone conversation). All were human-caused, and occurred between late fall and early spring. The smallest was approximately one acre in size, and the largest approximately 60 acres in size. The following excerpt from an e-mail from park chief of planning and resource stewardship David Muth to fire program planner Ed Delaney, dated October 5, 2004, illustrates the nature of fuels at JELA.

We first acquired land in Barataria in 1980, and we continue to acquire land today. In the last 24 years, there has not been a single natural wildfire in the Preserve that we know of. In the mid-1980s, hunters started one or two marsh fires north of the park which sent a few fingers onto park property before burning themselves out. Other than those mentioned in the draft FMP, those are the only fires... since 1984.

There was also an attempt at a prescribed fire in a Pecan Orchard in Barataria in the early 1980s... We cleared fire lanes, cut perimeters around the pecan trees, built up brush piles, and waited for a cool dry front in the fall (the driest time of the year). We could not get ignition despite a considerable assault with drip torches. A similar attempt was made on the Chalmette Battlefield in order to see if we could get away with less mowing. No ignition [was possible].

Here in the humid sub-tropics, fire does not appear to be a major factor in forested areas. Rainfall averages over 60 inches per year, with the driest month, October, averaging 3 inches. Humidity averages [are] very high, and almost never drops below 50% for more than a couple of days. Natural elevations in the Preserve don't exceed 4 feet above mean sea level, and most of the preserve is less than 2 feet above m.s.l. The water table is just below the surface and essentially never less than a foot or two below the surface on the highest ground during droughts. On lower ground (most of the Preserve) it is usually at or slightly above the surface. Even if it doesn't rain for weeks, fuel rarely really dries out. Duff layers are transient because of high detritivore activity.

As far as we know, there has never been a [natural ignition] in Barataria—no historical descriptions, no oral tradition, no sign in tree rings, and no fire history in similar forests in the Mississippi River’s active delta.

The Preserve’s marshes are composed primarily of peat soil, some of which is bouyant (*flotant*) and some of which semi-bouyant (*tremblant*), and a great deal of which is just a thick, rich, soup, loosely vegetated. The most bouyant peat marshes can have floating mats of peat a meter thick and support less water tolerant grasses, sedges, forbs, and shrubs on their surfaces. Because they float upward on rising tides, they stay “dry” at the surface.

Fire will burn in these marshes, as the hunter-ignited fires demonstrate. Fire seems to have been used a lot by hunters and trappers prior to park creation. We even have b&w aerial photography from the 1950s that shows freshly charred marsh surfaces. Unlike some peat marshes, though, because of tidal influence, our peat tends to continue to wick moisture even in prolonged drought, and thus does not seem to dry out enough to allow sub-surface peat fires. Nevertheless, surface fire seems to have been frequent enough to have affected vegetative cover types. Aerial photo analysis reveals a great increase in stands of a floating shrub community dominated by wax myrtle (*Myrica cerifera*) from near zero cover 50 years ago to hundreds of acres today. Our best guess is that the removal of anthropogenic fire over the last 30-40 years is the most plausible explanation for this increase in shrub cover.

Fighting wildfire in these marshes is...problematic. There are no roads into the marsh. The only access to interior marsh is by airboat. Most areas are only marginally walkable, and certainly not safely walkable in a wildfire situation. Airboats are unreliable in heavily-vegetated marsh—they get stuck often.

As far as we know, no agency has boat firefighting equipment capable of getting into the park’s shallower canals and bayous, which do offer fire breaks. What boat fire-fighting equipment there is isn’t stationed near the Preserve. Only the presence of groups of grandfathered-in hunting and fishing camps built on stilts on the spoil banks of the deeper canals pose any concern vis-à-vis fire damage. It is difficult for me to envision a fast-moving marsh fire making the leap up on to the spoil banks where there is closed canopy of exotic trees and almost no under story. Thus I don’t think the camps are too likely to be burned, except by an unlucky windblown cinder. Indeed, many such camps were already there during the heyday of anthropogenic burning.

If fire were to break out on higher ground, local firefighters would respond via the highways. There is an area of drained peat marsh inside the levee system just north of the Preserve. Hunters have occasionally started peat fires there that burned for days or weeks. Local firefighters can’t do much about them unless they burn close to water lines along the highway. A fire on high ground within the Preserve would generally be close to one of those highway/waterline corridors.

3.4.4 Wildland Fire Management Situation

3.4.4.1 Historical Weather Analysis

The National Weather Service provides the following historical weather data for New Orleans. Temperature and precipitation are based on data collected from 1961-1990. Wind speed and relative humidity are based on data collected from 1947-1993.

Table 1: Historical Weather Data, New Orleans, LA

Month	Average High Temp (F)	Average Low Temp (F)	Average Temp (F)	Average Precip (Inches)	Average Wind Speed (mph)	Average Afternoon Relative Humidity (%)
Jan	60.8	41.8	51.3	5.05	9.3	66
Feb	64.1	44.4	54.3	6.01	9.8	63
Mar	71.6	51.6	61.6	4.9	9.9	60
Apr	78.5	58.4	68.5	4.5	9.4	59
May	84.4	65.2	74.8	4.56	8.2	60
Jun	89.2	70.8	80.0	5.84	6.9	63
Jul	90.6	73.1	81.9	6.12	6.1	66
Aug	90.2	72.8	81.5	6.17	6	66
Sep	86.6	69.5	78.1	5.51	7.3	65
Oct	79.4	58.7	69.1	3.05	7.6	59
Nov	71.1	51.0	61.1	4.42	8.7	61
Dec	64.3	44.8	54.5	5.75	9.1	66
				61.88 (total)	8.2 (overall ave.)	63 (overall average)

Source: http://www.washingtonpost.com/wp-srv/weather/longterm/historical/data/new_orleans_la.htm

3.4.4.2 Fire Season

Fire season in the park area is from November 15th to May 1st, as suggested by the fire management officer at nearby Mississippi Sandhill Crane National Wildlife Refuge and the U.S. Fish and Wildlife Service regional fire ecologist, based upon historic weather parameters combined with fire occurrence in the local region. However, fires can occur throughout the year, particularly during periods of drought.

3.4.4.3 Fuel Characteristics and Fire Behavior

The primary fuel types represented at JELA have been classified according to the National Fire Danger Rating System (NFDRS) and the Northern Forest Fire Laboratory Fire Behavior Prediction System (FBPS) (Deeming et al 1978:30, Anderson 1982). Acreages of fuel models within the Barataria Preserve Unit were determined via Geographic Information System.

- ❖ NFDRS Fuel Model E (FBPS Fuel Model 9): This fuel model should be used for hardwood and mixed hardwood-conifer types where the hardwoods dominate. The fuel is primarily hardwood leaf litter. The oak-hickory types are best represented by fuel model E, but E is an acceptable choice for mixed forests of the Southeast. In high winds, the fire danger may be underrated because rolling and blowing leaves are not accounted for. In the summer after the trees have leafed out, fuel model E should be replaced by fuel model R.

Fuel model E best represents the ridge hardwood forest within the Barataria Preserve Unit after leaf fall.

- ❖ NFDRS Fuel Model L (FBPS Fuel Model 1): This fuel model is meant to represent western grasslands. The principal species are coarser and heavier than those in model A fuels. Otherwise, the situations are very similar; shrubs and trees occupy less than one-third of the area. The quantity of fuel in these areas is more stable from year to year.

Fuel model L best represents the grass covering the Chalmette Battlefield.

- ❖ Fuel Model N (FBPS Fuel Model 3): This fuel model was constructed specifically for the sawgrass prairies of south Florida. It may be useful in other marsh situations where the fuel is coarse and reed-like. This model assumes that one-third of the aerial portion of the plants is dead. Fast-spreading, intense fires can occur even over standing water.

Fuel model N best represents the majority of the marsh vegetation within the Barataria Preserve Unit.

- ❖ NFDRS Fuel Model O (FBPS Fuel Model 4): This fuel model applies to dense, brushlike fuels of the Southeast. O fuels, except for the deep litter layer, are almost entirely living. The foliage burns readily except during the active growing season. The plants are typically over six feet tall and are often found under an open stand of pine. If the plants do not reach the six-foot criteria, fuel model D should be used.

Fuel model O best represents marsh vegetation with a tall shrub component (primarily wax myrtle) within the Barataria Preserve Unit.

- ❖ NFDRS Fuel Model R (FBPS Fuel Model 8): This fuel model represents hardwood areas after the canopies leaf out in the spring. It is provided as the off-season substitute for E. It should be used during the summer in all hardwoods and mixed conifer-hardwood stands where more than half of the overstory is deciduous.

Fuel model R best represents the ridge hardwood forest within the Barataria Preserve Unit after canopy leaf out.

Table 2 illustrates historic fire weather parameters at “average” and “extreme” levels for the park fire seasons.

Table 2: Historic Fire Weather Parameters for JELA Fire Season (November 15 – May 1), NFDRS RAWS Station 168541

Fire Weather/Behavior Parameters	Average Fire Season Weather	97th Percentile Fire Season Weather
20-foot wind speed	5 miles/hour	9 miles/hour
Maximum temperature	73 degrees Fahrenheit	85 degrees Fahrenheit
Minimum relative humidity	50%	23%
1-hour fuel moisture	12%	7%
Live fuel moisture	160%	70%

Table 3 demonstrates anticipated fire behavior at JELA under these average and extreme conditions, as well as critical threshold values influencing fire controllability. The values were calculated using the BEHAVE (Andrews 1986) fire behavior prediction model utilizing weather inputs from the U.S. Fish and Wildlife Service RAWS station at nearby Big Branch Marsh National Wildlife Refuge (NFDRS 168541). The weather data utilized cover the five-year period from 2000-2004, and the weather indices were calculated using the FireFamily Plus

(Bradshaw 2004) software package. It should be recognized that the table values are based upon models rather than direct observation of fire behavior in this fuel type. As JELA managers have the opportunity to observe and monitor fire behavior, these values may be refined and the model calibrated to better reflect local fuel and weather conditions.

The nearby Mississippi Sandhill Crane National Wildlife Refuge, from whom JELA will access fire weather/fire danger information, uses the Keetch-Byram Drought Index (KBDI) as its primary drought indicator, which, based upon the level, indicates low to extreme drought conditions influencing fire behavior (see section 4.2.2.4.2.2).

Table 3: Potential Fire Behavior Under Average and Extreme Conditions

NFDRS Model	FBPS Model	Fire Behavior; Average Conditions		Fire Behavior; Extreme Conditions	
		Flame Length	Rate of Spread	Flame Length	Rate of Spread
E	9	1 ft	2 chains/hr	3 ft	6 chains/hr
L	1	0 ft	0 chains/hr	4 ft	57 chains/hr
N	3	7 ft	28 chains/hr	11 ft	82 chains/hr
O	4	13 ft	31 chain/hr	22 ft	86 chains/hr
R	8	.5 ft	.5 chains/hr	1 ft	1 chain/hr

Average conditions = 2000-2004 NFDRS station 168541 mean fire season weather conditions

Extreme conditions = 2000-2004 NFDRS station 168541 97% percentile fire season weather conditions

Assumes maximum spread with 0% slope

In regard to flame length, the USDA Forest Service research paper entitled *Help in Making Fuel Management Decisions* (1975) provides the following interpretations:

Table 4: Flame Length Interpretations

Flame Length (ft)	Interpretations
0-4	Fires can generally be attacked at the head or flanks by persons using handtools. Handline should hold the fire.
4-8	Fires are too intense for direct attack on the head by persons using handtools. Handline cannot be relied on to hold fire. Equipment such as dozers, engines, and retardant aircraft can be effective.
8-11	Fires may present serious control problems—torching out, crowning, and spotting. Control efforts at the head of the fire will probably be ineffective.
11+	Crowning, spotting, and major runs are common. Control efforts at the head of the fire are ineffective.

Table 5 outlines potential critical weather parameters that would result in fire behavior exceeding direct attack capabilities (flame lengths greater than eight feet). These values were calculated using the RX Window Module of the BEHAVE program (Andrews 1986). Such values are useful for facilitating recognition of potential extreme fire behavior conditions. It should be noted that generally two or three weather parameters must be aligned in order for extreme conditions to result. It should also be noted that these are modeled values and should serve only as guidelines. As the opportunity arises, fire monitoring data collection on wildland fires will facilitate refinement of these values, as well as development of critical values for additional parameters.

Table 5: Critical Weather Parameters Resulting in Need for Indirect Attack

NFDRS Model	FBPS Model	Moisture of Extinction	Critical Weather Parameters Resulting in Fire Behavior Exceeding Direct Attack Capabilities
E	9	25%	1-hr fuel moisture < 5% and eye-level wind speed > 15 mph
L	1	12%	1-hr fuel moisture < 5% and eye-level wind speed > 10 mph
N	3	25%	10-hr fuel moisture < 7% and eye-level wind speed > 2 mph
O	4	20%	Fire under any conditions in this type is unsafe for direct attack
R	8	30%	Flame lengths unlikely to exceed 8 feet even under extreme conditions

Moisture of extinction is defined as the 1-hour fuel moisture upper limit beyond which the fuels described by the given model will not burn. One-hour fuel moisture is a function of temperature, relative humidity, and shading.

3.4.4.4 Fire Regime Alteration

The historical natural fire regimes at the Barataria Preserve Unit are wet grasslands and bottomland hardwood. The wet grasslands is a stand-replacement fire regime, in which fire typically kills more than 80 percent of the overstory. The following excerpt concerning the wet grasslands fire regime comes from the USDA Forest Service General Technical Report entitled *Wildland Fire in Ecosystems: Effects of Fire on Flora* (2000):

Much of the coastal region of the Southern United States, from Virginia to Texas, is characterized by a presettlement fire frequency of 1 to 3 years (Frost 1995). Coastal marsh landscapes are typically extensive, a factor that aids in the propagation of an individual fire. Natural barriers to fire spread are relatively common and vary from wide river channels to small stream channels and narrow animal trails. Depending on the fuel and wind speeds, fires may either bridge small to moderate-sized natural breaks or be stopped by them. Thus, the extent of natural fires varies greatly as does the ease of accomplishing a prescribed burn. Lightning-strike fires are thought to be common in coastal wetlands (Frost 1995), and often fire from the adjacent upland can spread into the marsh.

The following description of the bottomland hardwoods fire regime comes from chapter 25 (Background Paper: Fire in Southern Forest Landscapes) of the USDA Forest Service General Technical Report entitled *The Southern Forest Resource Assessment Summary Report* (2002):

The historical role of fire in the bottomland hardwood ecosystem is unclear (Wade and others 2000). Drought probably played a role, and low- to moderate-intensity wildfires may have been frequent (Lentz 1931, Toole and McKnight 1956). Low-intensity fires are the norm in these forests because fuel loads are generally light (except after damaging wind and ice storms) due to rapid decomposition on these moist, humid sites. In canebrakes, fire intensity is much higher, but fire severity is low except during drought. Large fires can only occur after extended drought, usually when a dry fall is followed by a dry spring.

As per the above-referenced *Wildland Fire in Ecosystems: Effects of Fire on Flora* (2000):

In young pole-size stands [of bottomland hardwood], fires often result in basal wounds. Although these wounds often heal over, internal decay continues with decay height closely related to time since fire. Kaufert (1933) estimated that 90 to 95 percent of the decay in merchantable Southern bottomland hardwood stands was the result of past fires. Most bottomland hardwoods, even large ones, are sensitive to fire. Low-intensity fires may initially appear benign, but the cambium has been damaged and incipient decay begins even though the bark remains intact for several years after fire.

- No fire management operation will be initiated until all personnel involved have received a safety briefing describing known hazards and mitigating actions (LCES*), current fire season conditions, and current and predicted fire weather and behavior. Hazards specific to the park include:
 - Snags and dead trees with weak root systems.
 - Stinging/biting insects and poisonous snakes.
 - Possible exposure to West Nile virus, transmitted by mosquitoes.
 - Difficult/potentially dangerous travel through the Barataria Preserve Unit.
 - Uneven terrain, poor footing.
 - Trash/debris.
 - Dehydration, heat exhaustion and heat stroke.
- Wildland fire incident commanders will minimize firefighter exposure to heavy smoke by incorporating the recommendations outlined in the publication *Health Hazards of Smoke* (Sharkey 1997), available from the Missoula Technology and Development Center.
- Park neighbors, visitors and local residents will be notified of all fire management events that have the potential to impact them.
- The JELA superintendent or designee may, as a safety precaution, temporarily close parts of the park to the visiting public.
- Smoke on roadways will be monitored and traffic control provisions taken to ensure motorist safety during fire events at the park. The following procedures will be taken to compensate for reduced visibility when a paved road is affected by smoke (the incident commander on a particular event will determine visibility levels):
 - Posting of “Smoke on Road” signs on either side of the affected area.
 - Reducing the posted speed limit when visibility is strongly reduced, and escorting vehicles with a well-marked law enforcement vehicle as necessary.
 - Closing the road to traffic when visibility is severely reduced.
- ❖ Property – To the greatest extent feasible and appropriate, park infrastructure, any other development, and adjacent non-agency land will be protected during all fire management activities.
- ❖ Natural and cultural resources – Natural and cultural resources will be protected from the adverse effects of unwanted fire as well as the adverse effects of fire management activities (see section 10.0). During all suppression activities, the minimum impact suppression tactics policy will be incorporated to the greatest extent feasible and appropriate, employing methods least damaging to park resources for the given situation (see section 4.2.7).

* LCES is an acronym intended to remind firefighters of the four key elements associated with firefighter safety: Lookouts, Communications, Escape Routes, and Safety Zones.

- ❖ Air and water quality: The park will comply with the Clean Air Act, the Clean Water Act, and all other applicable federal, state, and local laws and requirements. Additionally:
 - The suppression response selected to manage a wildland fire will consider air quality standards.
 - During fire suppression, water or type A (biodegradable) foam will be used in lieu of fire retardant.

4.0 WILDLAND FIRE MANAGEMENT PROGRAM COMPONENTS

4.1 General Implementation Procedures

As wildland fire will not be used for resource benefits at JELA, suppression is the only appropriate response to a wildland fire. The requirement for a decision checklist as part of the Stage 1: Initial Fire Assessment of the wildland fire implementation plan (WFIP) is considered to be met at the programmatic level in this Fire Management Plan.

4.2 Wildland Fire Suppression

RM-18 defines wildland fire suppression as “an appropriate management response to wildland fire that results in curtailment of fire spread and eliminates all identified threats from the particular fire. [This may include confinement within natural or pre-existing boundaries.] 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.”

4.2.1 Range of Potential Fire Behavior

As previously discussed, weather and fuels are the primary influences upon fire behavior at JELA. Due to the relatively flat topography, fire behavior is not affected by slope or aspect. Depending upon the fuels, season, and fire weather conditions, fire behavior can range from low-intensity to extreme. During periods of drought or other abnormal environmental conditions, extreme fire behavior can occur, entailing high fire intensity, rapid spread, long flame lengths, spotting, and (in rare cases) torching and crowning.

As previously discussed in section 3.4.4.3, anticipated fire behavior at JELA under average and extreme conditions was determined using the BEHAVE (Andrews 1986) fire behavior prediction model. It should be recognized that the values are based upon models rather than direct observation of fire behavior in these fuel types. As JELA managers have the opportunity to observe and monitor fire behavior, these values may be refined and the model calibrated to better reflect local fuel and weather conditions.

NFDRS Fuel Model E (FBPS Fuel Model 9)

- ❖ Fire under average conditions: flame lengths of 1 foot, rate of spread of 2 chains per hour (a chain is equal to 66 feet)
- ❖ Fire under extreme conditions: flame lengths of 3 feet, rate of spread of 6 chains per hour

NFDRS Fuel Model L (FBPS Fuel Model 1)

- ❖ Fire under average conditions: flame lengths of 0 feet, rate of spread of 0 chains per hour (due to moisture of extinction under average conditions)
- ❖ Fire under extreme conditions: flame lengths of 4 feet, rate of spread of 57 chains per hour

NFDRS Fuel Model N (FBPS Fuel Model 3)

- ❖ Fire under average conditions: flame lengths of 7 feet, rate of spread of 28 chains per hour
- ❖ Fire under extreme conditions: flame lengths of 11 feet, rate of spread of 82 chains per hour

NFDRS Fuel Model O (FBPS Fuel Model 4)

- ❖ Fire under average conditions: flame lengths of 13 feet, rate of spread of 31 chains per hour
- ❖ Fire under extreme conditions: flame lengths of 22 feet, rate of spread of 86 chains per hour

NFDRS Fuel Model R (FBPS Fuel Model 8)

- ❖ Fire under average conditions: flame lengths of .5 foot, rate of spread of .5 chains per hour
- ❖ Fire under extreme conditions: flame lengths of 1 foot, rate of spread of 1 chain per hour

See Table 2 for historic fire weather parameters for JELA, Table 4 for flame length interpretations, and Table 5 for critical weather parameters resulting in the need for indirect attack.

4.2.2 Preparedness Actions

NPS policy requires that every unit with a fire management program incorporate preparedness considerations into its fire management plan (*RM-18*, chapter 7, provides guidelines). The park depends upon cooperators for its wildland fire suppression needs. Preparedness at the park will involve:

- ❖ Ensuring that the park has access to additional fire resources as the need arises.
- ❖ Maintaining fire records, weather data, maps and other associated information. The park fire management officer (hereinafter referred to as the park FMO) will submit JELA data annually, including daily situation reports during fire events, to the Southeast Regional Office FMO for entry into SACS, or the appropriate reporting system. The park FMO will utilize other system options as appropriate to maintain data on employee qualifications, hazard fuels, FIREPRO, etc.

- ❖ Preparing a pre-season risk analysis.
- ❖ Maintaining detection capabilities. Fire detection will be accomplished primarily by park field personnel, with additional input from visitors, cooperators and adjacent landowners.

4.2.2.1 Fire Prevention Activities

Prevention activities, designed to minimize the occurrence of human-caused wildland fires at the park, generally fall within one of three broad categories, as follows (*RM-18*, chapter 8, provides guidance):

- ❖ Education – Educating the public regarding the importance of wildland fire prevention can change people’s behavior. Park methods include signs, posters, bulletin boards, and face-to-face contacts with visitors, all of which facilitate public awareness, understanding, and support.
- ❖ Engineering – Engineering involves reducing or eliminating fire risks (ignition sources) and hazards (fuels). The primary park method involves maintaining existing defensible space of at least 30 around all buildings and maintaining existing defensible space of varying width around sensitive cultural and natural sites.
- ❖ Enforcement – Enforcement involves activities that ensure compliance with fire regulations and ordinances (including public use and access restrictions during times of high fire danger). Any wildland fire at the park will be investigated, both to identify the responsible party if human-caused, and to gain information that can be applied to future prevention efforts.

4.2.2.2 Annual Training Needs of Fire Staff

NPS fire management training meets criteria specified within the training curriculum approved by the National Wildland Coordination Group (NWCG), which is tiered to positions described in the NWCG *Wildland Fire Qualifications*, *Prescribed Fire Job Qualifications*, and *Incident Command System Wildland Fire Job Performance* guides. The park FMO will conduct annual training need analyses, and coordinate training courses as appropriate. Courses identified will be based upon employee needs (as reflected in individual employee development plans), park fire management needs, and regional priorities. Training will be conducted on an interagency basis to the greatest extent possible. Any firefighter-qualified park staff will receive at least eight hours of annual safety refresher training (see section 8.1).

The park FMO will submit all pertinent employee data to the Southeast Regional Office FMO for entry into IQCS (or the appropriate reporting system).

4.2.2.3 Annual Equipment and Supply Readiness Procedures

As previously stated, JELA depends upon cooperators for its wildland fire suppression needs. Chapter 4 of *RM-18* notes that an annual review is essential to ensure that the FMP continues to conform to current laws, objectives, procedures and strategies. As part of the annual review,

JELA staff will contact these cooperators to reevaluate the collaborative relationship. Section 5.4 lists interagency contacts.

4.2.2.4 Fire Weather and Fire Danger

JELA does not maintain a fire weather station. Current fire weather information is available through the Mississippi Sandhill Crane National Wildlife Refuge, and the SE Louisiana Refuges, in Lacombe.

The National Fire Danger Rating System (NFDRS) enables a land management unit to determine fire danger based upon an evaluation of the upper limit of predicted fire behavior. Calculations of fire behavior are based on fuels, topography and weather. NFDRS outputs give relative ratings of potential wildland fire growth and behavior, thereby allowing a unit to systematically correlate its readiness level to the predicted fire problems of the day. The Mississippi Sandhill Crane National Wildlife Refuge uses the burning index (the NPS standard) as its primary day-to-day indicator of the potential amount of effort needed to suppress a single fire in a particular fuel type within a given area, and the Keetch-Byram Drought Index as its primary drought indicator. Both of these indices influence decisions regarding prevention activities, initial attack, and extended attack. The SE Louisiana Refuges use the burning index, in correlation with the spread component index system used by the Louisiana Forestry Commission, as well as the Keetch-Byram drought index.

4.2.2.4.1 Burning Index

The burning index (BI) is a number on an open-ended scale (although typically between 0 and 100), expressing the potential amount of effort needed to suppress a single fire in a particular fuel type within a given area. BI is based upon fuel model, fuel moisture, and current and forecasted weather parameters. As the BI increases, expected fire intensity increases. The higher the expected fire intensity, the more effort that will be necessary for fire suppression.

4.2.2.4.2 Keetch-Byram Drought Index (KBDI)

The KBDI is a mathematically-calculated drought indicator relating to the amount of moisture in the top seven inches of soil or duff. It ranges from 0-800, with 0 being saturated and 800 indicating maximum drought. Drought directly influences the flammability of all fuel/vegetation complexes (as drought progresses the upper soil layers dry, increasing the amount of dead and cured live fuels available for consumption), which in turn influences fire behavior and control efforts. For a description of fire behavior and effects that can be expected at increasing levels of drought in the Southeast, see website <http://www.tncfire.org/resource/keetch.htm>.

4.2.2.5 Step-Up Staffing Plan

Because JELA depends upon cooperators for its wildland fire suppression needs, the park has no step-up staffing plan. The park FMO will stay apprised of fire danger via communication with the Mississippi Sandhill Crane National Wildlife Refuge FMO.

ONPS and FIREPRO fund routine preparedness actions. If severity funding is necessary, the park FMO will submit a written assessment of the current and potential situation, including a description of mitigating actions and costs to the SERO FMO.

4.2.3 Pre-Attack Plan

RM-18, chapter 7, provides a pre-attack planning checklist that will serve as a reminder of various elements to be considered at the park (as applicable) upon reaching very high to extreme fire danger (as per the Mississippi Sandhill Crane National Wildlife Refuge's step-up staffing plan).

4.2.4 Initial Attack

In the case of a wildland fire at JELA, the Lafitte-Crown Point Volunteer Fire Department will respond to wildland fires within the Barataria Preserve Unit (FMU #1), and the St. Bernard Parish Fire Department will respond to wildland fires within the Chalmette Battlefield (FMU #2).

In coordination with the park FMO, the responding agency(ies) will develop an appropriate response to the incident, organize and direct the fire resources on hand toward safe, efficient implementation of that response, monitor the effectiveness of the suppression tactics, and adjust strategy and tactics accordingly. The responding agency(ies) will be responsible for the fire until it is out or until being relieved of duty via a formal command change.

4.2.4.1 Information Used to Set Initial Attack Priorities

The goal in all initial attack actions is to suppress the fire in a cost-effective manner, consistent with resource management objectives. Initial attack priorities at JELA are tiered to firefighter and public safety (the highest priority in every fire management activity), and the threat that the wildland fire poses to park values. Factors considered in assessing the degree of threat that the fire poses include the fire location, fuels, current and forecasted weather, and current and predicted fire behavior. When multiple fires are reported, fires occurring in the wildland urban interface will take priority over fires occurring in natural areas.

4.2.4.2 Criteria for Appropriate Initial Attack Response

The appropriate initial attack response will be determined from an analysis of the given situation, and must be consistent with the park's general and resource management objectives. Factors dictating the appropriate management response include firefighter and public safety, fire location, current and predicted fire weather/fire behavior, park values at risk, cost-effectiveness, and potential adverse effects of both the fire and suppression efforts.

The appropriate initial attack response will vary from fire to fire, and sometimes even along the perimeter of the same fire. Options range from monitoring with minimal on-the-ground disturbance to aggressive suppression actions along the entire fire perimeter.

4.2.4.3 Confinement as an Initial Attack Suppression Strategy

A confinement strategy may be implemented as the initial attack action as long as it is not used to meet resource objectives. Confinement is selected in lieu of wildland fire use to maximize firefighter safety, minimize suppression costs, minimize cost + loss in low-valued and commodity resource areas, and to maximize availability of critical suppression and management resources during periods of high fire danger associated with fire in highly-valued resource areas.

Confinement may also be a strategic selection through the wildland fire situation analysis (WFSa) process when a fire is expected to exceed initial attack capability or planned management capability. When confinement is selected as the initial action, the same management process applies as for wildland fire use decisions. A long-term implementation plan is needed to guide the implementation of the confinement strategy. The wildland fire implementation plan (WFIP), prepared in stages, meets this requirement.

4.2.4.4 Typical Fire Response Time

The response time (from the time the fire report is received) to a wildland fire involving the Chalmette Battlefield should take no more than 30 minutes. The response time to a fire involving the Barataria Preserve Unit could take from one to two hours or more, depending upon the location of the fire.

4.2.4.5 Restrictions and Special Concerns

Chainsaws, hand tools and drip torches may be used at any time for fire management purposes. Fire engines or slip-on units may be used as water sources, provided that they stay on existing roads. Water or type A (biodegradable) foam will be used in lieu of fire retardant. Heavy equipment such as bulldozers and plows for constructing fireline will not be used at the park, nor will fireline explosives.

In areas of floatant (see section 3.4.1.5), firefighter safety is a concern. Floating marsh vegetation cannot be counted on to support the weight of firefighters and/or their equipment.

4.2.4.6 Work/Rest Guidelines, Rest and Recuperation

The *Interagency Incident Business Management Handbook* (chapter 10, section 12.6) provides comprehensive direction on work/rest guidelines and rest and recuperation (R&R). It also provides guidance on the application of management-directed days off for employees at their home units. Management of work schedules, directed days off and R&R will be incorporated as appropriate into JELA fire management activities to give personnel proper rest so they remain productive, mentally alert, and physically capable of performing their jobs safely.

4.2.5 Extended Attack and Large Fire Suppression

4.2.5.1 Determination of Extended Attack Needs

Extended attack occurs when a wildland fire has not been controlled by initial attack forces, and additional firefighting resources are arriving, en route, or being ordered by the initial attack incident commander. It requires a wildland fire situation analysis (WFSA) to guide a re-evaluation of suppression strategies. The WFSA process determines current fire complexity and facilitates selection of a new management response, which in turn determines the number and type of resources needed for extended attack. Extended attack continues until the fire has been suppressed, or until transition to a higher-level incident management team is completed.

4.2.5.2 Implementation Plan Requirements—WFSA Development

A WFSA, required when extended attack occurs, serves as the decision record for selection of the appropriate management response. Whenever reasonable doubt exists regarding the successful outcome of an initial attack response, the park FMO will immediately begin a WFSA.

4.2.5.3 Complexity Decision Process from Initial to Extended Attack

One of the WFSA components is a fire complexity analysis guide. This guide contains specific yes/no questions regarding fire elements, including current and predicted fire behavior, resources committed, resources threatened, safety, ownership/jurisdiction, external influences, change in strategy, and existing overhead. The total number of positive responses to the questions determines the complexity/management level of the fire, i.e. type I, type II, or type III. The incident commander will submit the WFSA to the park superintendent for approval. If fire complexity dictates, the park FMO will request an interagency incident management team (type I or II) through the Louisiana Interagency Coordination Center.

4.2.5.4 Incident Commander Delegation of Authority

When an incident management (IM) team is mobilized to a JELA fire event, the park FMO will coordinate the transition of authority for suppression actions, and serve as agency advisor to the team during their time on the incident. The park superintendent will execute a written limited delegation of authority to the incoming incident commander, which will be included in the briefing package provided to the incoming IM team. The park superintendent will also conduct the eventual close-out and evaluation of the team. Appendix 13.7 provides a copy of the JELA limited delegation of authority for an incoming incident commander.

4.2.6 Exceeding Existing WFIP, Selecting New Strategy

The existing wildland fire implementation plan (WFIP) is exceeded when a wildland fire escapes initial attack or when the appropriate management response has not been successful, or when a prescribed fire can no longer be implemented in accordance with the approved plan. (As previously stated, prescribed fire will not be used at the park at this time.) A wildland fire situation analysis (WFSA) will be used to determine a new appropriate management strategy.

4.2.7 Minimum Impact Suppression Tactics

NPS policy requires fire managers and firefighters to select management tactics commensurate with a wildland fire's existing or potential behavior, but which cause as little impact to natural and cultural resources as possible. All suppression activities at JELA will therefore incorporate the minimum impact suppression tactics policy, to the greatest extent feasible and appropriate for the given situation. Examples of minimum impact suppression tactics that will be implemented include:

- ❖ Keeping fire engines or slip-on units on existing roads.
- ❖ Not using heavy equipment (e.g. bulldozers, plows) for constructing fireline.
- ❖ Not using fireline explosives.
- ❖ Using existing natural fuel breaks and human-made barriers, wet line, or cold trailing the fire edge in lieu of handline construction whenever possible.
- ❖ Keeping fireline width as narrow as possible when it must be constructed.
- ❖ Avoiding ground disturbance within known natural and archeological/cultural/historic resource locations. When fireline construction is necessary in proximity to these resource locations it will involve as little ground disturbance as possible and be located as far outside of resource boundaries as possible.
- ❖ Using water or type A (biodegradable) foam in lieu of fire retardant.
- ❖ Using soaker hose, sprinklers or foggers in mop-up; avoiding boring and hydraulic action.
- ❖ Minimizing cutting of trees.
- ❖ Scattering or removing debris as prescribed by the incident commander.
- ❖ Protecting 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.

RM-18, chapter 9, provides minimum impact suppression tactics guidelines. The park FMO will provide input in the selection and implementation of minimum impact suppression tactics for any wildland fires that go into extended attack.

4.2.8 Rehabilitation Guidelines and Procedures

Fire rehabilitation involves short-term actions (generally 0-6 months) to stabilize a burned area and mitigate the effects of fire suppression activities. Immediate rehabilitation actions to prevent further land degradation or resource loss, or to ensure safety, may be undertaken as part of the incident. Rehabilitation action at the park will typically involve removing any trash and debris from an incident location and along the fireline.

Rehabilitation actions may be funded through emergency fire operations accounts. The park FMO will plan major rehabilitation efforts, which cannot be undertaken during or immediately after an incident, for implementation as soon as feasible.

4.2.9 Reporting and Documentation

When JELA reaches very high to extreme fire danger (as determined by communication with the Mississippi Sandhill Crane National Wildlife Refuge), or upon confirmation of a wildland fire on

park land, the park FMO will notify the Southeast Regional Office FMO of such at the earliest possible time. During a fire event, the park FMO will submit a daily situation report to the Southeast Regional Office FMO for entry into SACS (or the appropriate reporting system). The park FMO will also complete a final record for each wildland fire, to be kept on file at JELA, which will include:

- ❖ Individual fire report DI-1202
- ❖ Narrative
- ❖ Wildland fire implementation plan
- ❖ Daily weather forecasts and spot weather forecasts
- ❖ Cumulative fire map showing acreage increase by day
- ❖ Total cost summary
- ❖ Monitoring data

GPS/GIS data should be the norm for recording location information whenever practical.

4.3 Non-Fire Fuel Treatment Applications

Non-fire fuels management at the park includes the continued practice of mowing and weedeating during the growing season, to maintain existing defensible space of at least 30 feet around park buildings, and to maintain existing defensible space of varying width around sensitive cultural and natural sites. Maintenance of defensible space is an ONPS-funded activity.

4.4 Emergency Rehabilitation and Restoration

Burned area emergency stabilization and rehabilitation actions are intended to protect public safety, stabilize and minimize unacceptable change to biotic communities and imminently threatened cultural resources (treatment to prevent further erosion of sites; not inventory or mitigation of sites), improve ecosystem structure and function according to approved field unit management plans, and repair or replace minor facilities damaged or destroyed by a wildland fire. Burned area rehabilitation (BAR) subactivity funds can only be used for treatments on agency lands within the perimeter of the fire or impact area downstream from the burned area. The use of BAR funding is further limited based on treatment effectiveness and to improve economic efficiencies. The Interagency Burned Area Emergency Stabilization and Rehabilitation Handbook provides treatment guidance and standards.

5.0 ORGANIZATIONAL AND BUDGETARY PARAMETERS

5.1 Organizational Structure of Fire Management Program

JELA does not have a formal fire management organization. The park FMO (collateral duty) is located organizationally within the Ranger Division. The park FMO reports to the park superintendent, and provides oversight and assistance as described in this plan. Additional support and expertise will be provided by or requested through the Southeast Regional Office FMO.

The park FMO is the point person for fire management at JELA. This person is responsible for coordinating with the Southeast Regional Office Fire Management staff. The park superintendent is responsible for the approval of all planning documents pertaining to fire management actions.

5.2 FIREPRO Funding

FIREPRO funds are separate from the ONPS appropriation, and must be utilized for fire-dedicated functions. Base funding needs are calculated each year through the FIREPRO funding analysis. All positions base-funded by FIREPRO will remain dedicated to wildland fire management, with at least 80% of their normal tour-of-duty spent on wildland fire activities. FIREPRO provides funding for fire planning and oversight functions, budgeted activities necessary to prepare for the normal fire year, and for the development and implementation of the wildland fire suppression, emergency rehabilitation, and hazard fuels reduction programs. FIREPRO-funded fire management program elements include (see chapter 18 of *RM-18* for element details):

- ❖ Preparedness
- ❖ Prescribed fire management
- ❖ Wildland fire management
- ❖ National resource crews
- ❖ Step-up plans
- ❖ Severity
- ❖ Emergency rehabilitation

5.3 Interagency Coordination

JELA coordinates fire management activities with the U.S. Fish and Wildlife Service, the Louisiana Interagency Coordination Center, the Lafitte-Crown Point Volunteer Fire Department, the St. Bernard Parish Fire Department, and local law enforcement (see chapter 5 of *RM-18* for authority and guidelines regarding interagency coordination).

5.4 Interagency Contacts

Lafitte-Crown Point Volunteer Fire Department, (504) 689-2522, or 911
Louisiana Interagency Coordination Center, (318) 473-7152
Mississippi Sandhill Crane National Wildlife Refuge, (228) 497-5780
Sheriff's Office, Jefferson Parish, (504) 363-5701, or 911
Sheriff's Office, St. Bernard Parish, (504) 271-2501, or 911
St. Bernard Parish Fire Department, (504) 279-1200, or 911

5.5 Fire-Related Agreements

JELA plans to develop memoranda of understanding (MOUs) for wildland fire protection with the Lafitte-Crown Point Volunteer Fire Department and the St. Bernard Parish Fire Department. A statewide reciprocal fire protection MOU is under development between the U.S. Department

of the Interior (National Park Service and U.S. Fish and Wildlife Service) and the Louisiana Department of Agriculture and Forestry. Appendix 13.6 will include copies of these MOUs once developed.

JELA has no structural firefighting capability. The Lafitte-Crown Point Volunteer Fire Department will respond to any structural fire event within the Barataria Preserve Unit, and the St. Bernard Parish Fire Department will respond to any structural fire event within the Chalmette Battlefield.

6.0 **MONITORING**

6.1 **NPS Fire Monitoring Handbook**

NPS policy requires managers to monitor the effects of all wildland and prescribed fires. Monitoring directives, summarized here from *Director's Order #18* are:

- ❖ Fire effects monitoring must be done to evaluate the degree to which objectives are accomplished.
- ❖ Long-term monitoring is required to document that overall programmatic objectives are being met and undesired effects are not occurring.
- ❖ Evaluation of fire effects data is the joint responsibility of fire management and natural resource management personnel.

JELA will conduct its fire monitoring program in accordance with the *NPS Fire Monitoring Handbook 2001 (FMH 2001)*, which outlines standardized methods to be used for monitoring wildland fires. Monitoring protocols will be reviewed and approved at the Southeast Regional Office level before receiving funding. The park FMO will coordinate with the Southeast Regional Office Fire Ecologist to establish monitoring plots at select locations within the park.

6.2 **Recommended Standard Monitoring Levels**

FMH 2001 provides recommended standards, divided into four monitoring levels, which constitute the lowest level of fire monitoring to be conducted by NPS units. Table 4 illustrates how these monitoring levels correspond to the given park management strategy.

Table 4: Management Strategies and Recommended Standard (RS) Monitoring Levels

Management Strategy	RS Level
Suppression: All management actions are intended to extinguish or limit the growth of a fire.	1. Environmental 2. Fire observation -Reconnaissance -Fire conditions
Prescribed fire: Management uses intentionally set fires as a management tool To meet specific objectives.	1. Environmental 2. Fire observation -Reconnaissance -Fire conditions 3. Short-term change 4. Long-term change

*Bold face print in RS level column indicates mandatory monitoring for the given management strategy.

6.3 Wildland Fire Monitoring

As indicated, wildland fire suppression requires level 1 and the first stage of level 2 monitoring. Level 1 monitoring, coordinated by the park FMO, involves environmental or planning data that provide the basic background information needed for decision-making when a wildland fire occurs. The reconnaissance stage of level 2 monitoring, also coordinated by the park FMO, provides a basic overview of a fire event. Monitoring the effect of suppressed wildland fire on vegetation or other area-specific variables can identify specific threats to park resources, facilitate adjustments to suppression actions, and identify the need for a rehabilitation response.

7.0 FIRE RESEARCH

Chinese tallow (*Triadica sebifera*) is ranked in surveys as one of the top invasive problem species in Gulf Coast states (Matlack 2002). Within the Barataria Preserve Unit at JELA, tallow is one of the primary threats to the integrity of the globally unique floating marsh ecosystem. Although tallow is typically controlled by mechanical means and herbicides in forests (Bruce et al. 1997), these management methods are impractical in the inaccessible floating marshes of the preserve. Prescribed fire application has been effective at controlling tallow in regional prairie ecosystems. The park has therefore submitted a PMIS funding request for a project entitled Assessing Fire for Control of Exotic Chinese Tallow in the Marshes of the Barataria Preserve. The specific objectives of this project, as per the project statement, are to:

- ❖ Evaluate the effectiveness of controlled burning for control of Chinese tallow within the marshes of the Barataria Preserve
- ❖ Determine what frequency of burning is necessary and desirable
- ❖ Determine which season is most effective for burning
- ❖ Develop management recommendations to be used for a comprehensive fire management plan for the Barataria Preserve

Park staff will cooperate with Dr. Loretta Battaglia, Assistant Professor of Plant Biology at Southern Illinois University, with all aspects of planning and execution of this project. Aerial photography of the preserve taken in 2001 will be used to identify and randomly select candidate sites for the experimental plots within the marsh. When final plot selection occurs, this FMP will be amended as appropriate to include prescribed fire use in those specific areas.

8.0 FIREFIGHTER AND PUBLIC SAFETY

8.1 Firefighter Safety and Related Training, Qualifications, and Fitness Standards

Firefighter and public safety is the first priority in every fire management activity. Agency administrators at all levels must stress that firefighter and public safety *always* takes precedence over property and resource loss. This policy will be emphasized throughout all fire management operations at the park.

The NPS wildland fire training, qualification, and certification system meets or exceeds all National Wildfire Coordinating Group (NWCG) standards. Only fully qualified (i.e. meeting

NPS qualifications and accepted interagency knowledge, skills and abilities for the assigned fire job) employees will be assigned fire management duties (unless assigned as trainees, in which case they will be closely supervised by an individual fully qualified for the given position). All personnel (including emergency hire firefighters) engaged in fireline operations must have completed a minimum of 32 hours of basic wildland fire training, including the modules on basic firefighting, basic fire behavior, and standards for survival*. The park FMO will coordinate at least eight hours of mandatory annual safety refresher training for any firefighter-qualified staff.

Any firefighter-qualified park staff will be equipped with approved personal protection equipment (PPE), and trained in its proper use. Operational personnel on wildland and prescribed fires (which will not be conducted at the park) are required to use the PPE. Mandatory PPE includes:

- ❖ 8" high, laced, leather boots with lug soles
- ❖ Fire shelter
- ❖ Hard hat with chin strap
- ❖ Goggles/safety glass
- ❖ Ear plugs
- ❖ Nomex shirt and trousers
- ❖ Leather gloves

The NPS *Wildland Fire Qualification System Guide* contains a supplemental list of PPE. Special PPE and hazard analysis is required for operations involving fuel gelling agents, fireline explosives, aircraft (particularly helicopters), and chainsaw operations. Prior to and throughout all fire management field operations at the park, fireline supervisors will cover safety factors with incident personnel, via operational briefings beforehand, and safety briefings that occur during the incident. No NPS employee, contractor or cooperator will ever be intentionally exposed to life-threatening conditions (see *RM-18*, chapter 3, for further safety-related planning and operational guidelines).

NPS policy requires that all personnel (including emergency firefighters) engaged in suppression and prescribed fire duties meet the physical fitness standards set by the NWCG. Physical fitness/work capacity levels for wildland firefighters and other fire-qualified employees will be determined by the "pack test" series of tests. Descriptions of the three work capacity levels (light, moderate and arduous), as well as medical and physical fitness requirements and procedures are outlined in the NWCG *Wildland Fire Qualifications Subsystem Guide*.

8.2 Public Safety Issues/Concerns, and Mitigation Procedures

Under no circumstances will an individual be permitted near a wildland fire at JELA without the appropriate training and required personal protective equipment (PPE). Members of the press may be allowed in the vicinity of a fire only if they are determined to meet the standards

* Exceptions to this are the Lafitte-Crown Volunteer Fire Department and the St. Bernard Parish Fire Department, whose members adhere to state-determined standards during the first operational period of a wildland fire (beyond that, they must adhere to NWCG standards).

established for the light fitness rating, wear the required PPE, and are accompanied by a trained, qualified firefighter who can assist them.

In the case of a large wildland fire, or during times of extraordinary fire danger, the JELA superintendent or designee may, as a safety precaution, temporarily close all or parts of the park to the visiting public. The superintendent is responsible for enforcing the closure. Every effort will be made to inform the general public of the situation and evacuate the area, if necessary. If a fire threatens to escape park boundaries, adjacent authorities and landowners will be given as much advance warning as possible so that they may take appropriate action.

9.0 PUBLIC INFORMATION AND EDUCATION

As previously discussed, educating the public regarding the importance of wildland fire prevention can change people's behavior. Park methods include signs, posters, bulletin boards, and face-to-face contacts with visitors, all of which facilitate public awareness, understanding, and support.

10.0 PROTECTION OF SENSITIVE RESOURCES

10.1 Archeological/Cultural/Historic Resources

The park will incorporate archeological/cultural/historic resources protection into fire management in a variety of ways. For example:

- ❖ The park FMO will continue coordination with the Southeast Archeological Center to ensure that JELA has the most current data regarding archeological resources within its boundaries. S/he will provide recommendations on how to mitigate adverse effects to these resources during fire management activities, and will coordinate compliance with Section 106 of the National Historic Preservation Act, as appropriate.
- ❖ Historic buildings and sensitive cultural sites will be protected from wildland fire via maintenance (mowing and weedeating during the growing season) of existing defensible space around them.
- ❖ During all suppression activities, the minimum impact suppression tactics policy (see section 4.2.7) will be incorporated to the greatest extent feasible and appropriate for the given situation. Tactics directly or indirectly facilitating the protection of archeological/cultural/historic resources include:
 - Keeping fire engines or slip-on units on existing roads.
 - Not using heavy equipment (e.g. bulldozers, plows) for constructing fireline.
 - Not using fireline explosives.
 - Using existing natural fuel breaks and human-made barriers, wet line, or cold trailing the fire edge in lieu of fireline construction whenever possible.
 - Keeping fireline width as narrow as possible when it must be constructed.

- Avoiding ground disturbance within known archeological/cultural/historic resource locations. When fireline construction is necessary in proximity to these resource locations it will involve as little ground disturbance as possible and be located as far outside of resource boundaries as possible.
- Using soaker hose, sprinklers or foggers in mop-up; avoiding boring and hydraulic action.

In conjunction with the Southeast Regional Fire Management Office, the Southeast Archeological Center is developing a matrix for cultural resources in the Southeast Region. This matrix will identify values and risks typically associated with different types of archeological sites found in the Southeast, and will provide guidance as to how different fire management activities can be tailored to minimize or mitigate any deleterious effects to the resources potentially at risk.

10.2 Natural Resources

The park will incorporate natural resources protection into fire management in a variety of ways, including minimum impact suppression tactics. The tactics listed in 10.1 as directly or indirectly facilitating the protection of archeological/cultural/historic resources also facilitate the protection of natural resources. Additional tactics include:

- ❖ Avoiding ground disturbance within known natural resource locations. When fireline construction is necessary in proximity to such resource locations it will involve as little ground disturbance as possible and be located as far outside of resource boundaries as possible.
- ❖ Using water or type A (biodegradable) foam in lieu of fire retardant.
- ❖ Minimizing cutting of trees.
- ❖ Protecting 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.

The park FMO will continue coordination with the U.S. Fish and Wildlife Service to ensure that JELA has the most current data regarding identified sensitive, proposed, and listed species, as well as any proposed or designated critical habitat areas within park boundaries. S/he will provide recommendations on how to mitigate adverse effects to these resources during fire management activities, and will coordinate compliance with Section 7 of the Endangered Species Act, as appropriate.

10.3 Development/Infrastructure/Inholdings

Park headquarters are located within the city of New Orleans.

Development/infrastructure within the Barataria Preserve Unit includes a park visitor center, law enforcement office, maintenance compound, environmental education building, two restroom buildings, and seven special-use-permit hunting camps with cabins. The Wisner Trust Foundation and its principal trustee, the city of New Orleans, own several hundred hunting camps with cabins within the legislative boundary of the Barataria Preserve Unit.

Development/infrastructure within the Chalmette Battlefield includes the site headquarters/administrative offices, visitor center, maintenance building, sheltered garage and fuel storage building, black powder magazine, the historic Malus-Beauregard House, a 1.5-mile tour road with six interpretive stops, parking, restrooms, a footpath, and a picnic area.

11.0 FIRE CRITIQUES AND ANNUAL PLAN REVIEW

11.1 Critiques

As per NPS policy, the park superintendent or designee will conduct a post-fire critique of every wildland fire at JELA, involving as many personnel who participated in the incident as possible. The critique will follow *RM-18* (chapter 13) guidelines, and will cover all aspects of the incident, including safety, tactics, difficulties encountered, areas needing improvement, and whether or not specified objectives were met. The information gathered from these critiques will be used to continually improve the effectiveness and efficiency of the fire management program. The critique will be attached to the associated DI-1202 fire report as a permanent record, and stored in park fire files.

As previously stated, firefighter and public safety is the first priority in every fire management activity. Any incident which results in human entrapment, serious injury, fatalities, or near-misses, will be investigated and reviewed, with appropriate administrative action taken based upon investigation results. Additionally, the park superintendent may request a regional-level review of any incident in which:

- ❖ The fire crosses park boundaries into another jurisdiction without the approval of the adjacent landowner or agency.
- ❖ The park receives adverse media attention.
- ❖ Significant property damage occurs.
- ❖ Controversy involving another agency occurs.

The Southeast Regional Office FMO will conduct an in-depth review of any wildland fires involving a type I or type II team.

11.2 Annual Plan Review

The park FMO will review the FMP annually and identify any changes that should be made to improve the effectiveness of the plan. The JELA superintendent will approve significant changes to the body of the plan (excluding grammatical corrections, minor procedural changes, deletions, corrections, and additions to the appendices). The park FMO will promptly forward copies of all changes to the Southeast Regional Office FMO for review and comment. Changes requiring approval will be submitted with a new cover sheet for signatures and dates, which will replace the original cover sheet.

A formal plan review will be conducted every five years, and the plan revised to incorporate any policy changes that have occurred during that five-year period.

12.0 CONSULTATION AND COORDINATION

The following individuals provided information, assistance, and guidance in the preparation of this plan:

Kirk Casanova, Fire Protection Chief, Louisiana Department of Agriculture and Forestry
Clint Cross, Wildland Urban Interface Coordinator, NPS Southeast Regional Office
Ed Delaney, Fire Program Planner, National Interagency Fire Center
Dean Gettinger, Fire GIS Specialist, NPS Southeast Regional Office
Sue Grace, Southeast Regional Fire Ecologist, U.S. Fish and Wildlife Service
David Muth, Chief of Planning and Resource Stewardship, JELA
Caroline Noble, Fire Ecologist, NPS Southeast Regional Office
Kevin Walsh, Prescribed Fire Specialist, NPS Southeast Regional Office
Nancy Walters, Natural Resource Manager, JELA
Tony Wilder, Fire Management Officer, Mississippi Sandhill Crane NWR
Lee Zahm, Lead Law Enforcement Ranger/Fire Management Officer, JELA

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- ❖ 100 - hour time lag – 1” to 3” diameter (branches)
- ❖ 1000 - hour time lag - >3” diameter (large branches and stems)

Fuel model: A simulated fuel complex for which all fuel descriptors required for the solution of a mathematical rate of spread model have been specified.

Hazard fuels: Large or abnormal fuel concentrations that form a special threat of ignition and resistance to control.

Hazards: The fuels and topography on which a wildland fire will spread.

Holding actions: Planned actions required to achieve wildland and prescribed fire management objectives. For prescribed fires, these actions are developed to restrict the fire inside the planned burn unit. For suppression actions, holding actions may be implemented to prohibit the fire from crossing containment boundaries. These actions may be implemented as firelines are established to limit the spread of fire.

IQCS: Incident Qualifications and Certification System

Incident commander (IC): Person responsible for incident activities including the development and implementation of strategic decisions, and for approving, ordering and releasing resources.

Indirect attack: A method of suppression in which the control line is located some considerable distance away from the fire's active edge. Generally done in the case of a fast-spreading or high-intensity fire and to utilize natural or constructed firebreaks or fuel breaks and favorable breaks in the topography. The intervening fuel is usually backfired; but occasionally the main fire is allowed to burn to the line, depending on conditions.

Initial attack: The actions taken by the first resources to arrive at a wildland fire to protect lives and property, and prevent further extension of the fire.

National Fire Danger Rating System (NFDRS): A set of computer programs and algorithms that allow a unit to estimate fire danger, based on an evaluation of the upper limit of predicted fire behavior.

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.

Prescribed Fire: A management-ignited wildland fire that burns under specified conditions of weather, fuel moisture, soil moisture, etc., that allow confinement of the fire to a predetermined area, and at the same time produce the fire behavior and fire characteristics required to accomplish planned management objectives.

Risk: Any heat source or human activity that can result in wildland fire ignition.

Suppression: All actions intended to extinguish or limit the growth of a fire, regardless of the strategies or tactics chosen.

Values: Areas where losses from wildland fire are unacceptable, such as archeological sites, developments, endangered species, adjacent land, etc.

Wildland fire: Any non-structural fire, other than prescribed fire, that occurs in the wildland.

Wildland fire implementation plan (WFIP): A progressively developed assessment and operational management plan that documents the analysis and selection of strategies and describes the appropriate management response for a wildland fire. A full WFIP consists of three stages. Different levels of completion may occur for differing management strategies (i.e., fires managed for resource benefits will have two-three stages of the WFIP completed, while some fires that receive a suppression response may only have a portion of stage I completed.)

Wildland fire situation analysis (WFSA): A systematic decision-making process that evaluates alternative management strategies to determine the most appropriate management strategy for a particular situation. Reasonable management alternatives are identified, analyzed and evaluated, consistent with the expected probability of success/consequences of failure. Evaluation criteria include firefighter and public safety, anticipated costs, resource impacts, and environmental, social and political considerations. From the management alternatives, a preferred alternative is selected, and the decision documented. The evaluation must clearly identify the point at which failure of the alternative is imminent. This becomes the triggering mechanism for re-evaluation of the WFSA, at which point the WFSA is amended or a new WFSA is completed to develop new alternatives.

Wildland fire use: The permitting of a naturally-ignited fire to burn under specific, predetermined environmental conditions, in pre-designated areas, in order to achieve defined resource management objectives.

Appendix 13.3 Park Species Lists

Appendix 13.4 NEPA Compliance

Environmental Screening Form

Project Description/Location: This project involves the implementation of a Fire Management Plan (FMP) for Jean Lafitte National Historical Park and Preserve, located in Jefferson, Lafayette, Lafourche, Orleans, St. Bernard, and St. Landry parishes, Louisiana. The FMP proposes the suppression of all wildland fires that occur within park boundaries, incorporating the minimum impact suppression tactics policy to the greatest extent feasible for the given situation. It additionally proposes maintenance of existing defensible space around park buildings and sensitive cultural and natural sites, which involves continuing the current park practice of mowing and weedeating during the growing season.

	Yes	No	Data Needed to Determine
Mandatory Criteria (A-N). Would the proposal, if implemented:			
A. Have material adverse effects on public health or safety?		x	
B. Have adverse effects on such unique characteristics as historic or cultural resources; park, recreation, or refuge lands; wilderness areas; wild or scenic rivers; national natural landmarks; sole or principal drinking water aquifers; prime farmlands; wetlands; floodplains; or ecologically significant or critical areas, including those listed on the National Register of Natural Landmarks?		x	
C. Have highly controversial environmental effects?		x	
D. Have highly uncertain and potentially significant environmental effects or involve unique or unknown environmental risks?		x	
E. Establish a precedent for future action or represent a decision in principle about future actions with potentially significant environmental effects?		x	
F. Be directly related to other actions with individually insignificant, but cumulatively significant, environmental effects?		x	
G. Have adverse effects on properties listed or eligible for listing on the National Register of Historic Places?		x	
H. Have adverse effects on species listed or proposed to be listed on the List of Endangered or Threatened Species, or have adverse effects on designated Critical Habitat for these species?		x	
I. Require compliance with Executive Order 11988 (Floodplain Management), Executive Order 11990 (Protection of Wetlands), or the Fish and Wildlife Coordination Act?		x	

J. Threaten to violate a federal, state, local, or tribal law or requirement imposed for the protection of the environment?		x	
K. Involve unresolved conflicts concerning alternative uses of available resources (NEPA sec. 102(2)(E).		x	
L. Have a disproportionate, significant adverse effect on low income or minority populations (EO 12898).		x	
M. Restrict access to and ceremonial use of Indian sacred sites by Indian religious practitioners or adversely affect the physical integrity of such sacred sites (EO 130007)		x	
N. Contribute to the introduction, continued existence, or spread of federally listed noxious weeds (Federal Noxious Weed Control Act).		x	
O. Contribute to the introduction, continued existence, or spread of non-native invasive species or actions that may promote the introduction, growth or expansion of the range on non-native invasive species (EO 13112).		x	
P. Require a permit from a federal, state, or local agency to proceed, unless the agency from which the permit is required agrees that a CE is appropriate?		x	
Q. Have the potential for significant impact as indicated by a federal, state, or local agency or Indian tribe?		x	
R. Have the potential to be controversial because of disagreement over possible environmental effects.		x	
S. Have the potential to violate the NPS Organic Act by impairing park resources or values?		x	
Tailor the following to meet individual park unit/project needs. Are any measurable impacts possible in the following categories relating to physical, natural, or cultural resources?			
A. Geological resources—soils, bedrock, streambeds, etc.		x	
B. From geohazards		x	
C. Air quality, traffic, or from noise		x	
D. Water quality or quantity		x	
E. Streamflow characteristics		x	
F. Marine or estuarine resources		x	
G. Floodplains or wetlands		x	

H. Land use, including occupancy, income, values, ownership, type of use		x	
I. Rare or unusual vegetation—old growth timber, riparian, alpine, etc.		x	
J. Species of special concern (plant or animal; state or federal listed or proposed for listing) or their habitat		x	
K. Unique ecosystems, biosphere reserves, World Heritage sites		x	
L. Unique or important wildlife or wildlife habitat		x	
M. Unique or important fish or fish habitat		x	
N. Introduce or promote non-native species (plant or animal)		x	
O. Recreation resources, including supply, demand, visitation, activities, etc.		x	
P. Visitor experience, aesthetic resources		x	
Q. Cultural resources, cultural landscape, sacred sites, etc.		x	
R. Socioeconomics, including employment, occupation, income changes, tax base, infrastructure, etc.		x	
S. Minority and low-income populations, ethnography, size, migration patterns, etc.		x	
T. Energy resources		x	
U. Other agency or tribal land use plans or policies		x	
V. Resource, including energy, conservation potential		x	
W. Urban quality, gateway communities, etc.		x	
X. Long-term management of resources or land/resource productivity		x	
Y. Other important environmental resources		x	

Please answer the following questions.

1. **Are the personnel preparing this form familiar with the site, and/or has a site visit been conducted? (Attach additional pages noting when site visit took place, staff attending, etc.)** A site visit was not conducted by the author of the Fire Management Plan (FMP), who has also

prepared this form. The FMP and this form were completed using information provided in park documents, as well as information provided by park staff.

2. **Has consultation with all affected agencies or tribes been completed? (Attach additional pages detailing the consultation, including the name, date, and summary of comments from other agency or tribal contacts.)** Yes, a consultation letter and copy of the Fire Management Plan was sent to both the U.S. Fish and Wildlife Service and the State Historic Preservation Office. Consultation was additionally conducted with the Chitimacha Indian Tribe.

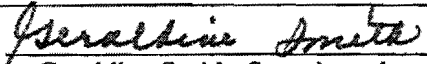
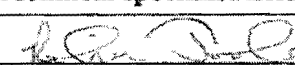
Instructions

When you have completed a site visit (or if staff are familiar with the specifics of the site) and consultation with affected agencies and/or tribes, and if the answers in the checklist above are all "no," you may proceed to the categorical exclusion form (appendix 2) if the action is described in section 3-4 of NPS-12. If any answers in the checklist are "yes" or "data needed to determine," or if the action is not described in section 3-4, prepare an environmental assessment or environmental impact statement.

Attach maps, notes of site visits, agency consultation, relevant data or reports, the categorical exclusion form or other relevant information to this form to begin the statutory/administrative record file.

Signatory

In signing this form, you are saying you have completed a site visit or are familiar with the specifics of the site, that you have consulted with affected agencies and tribes, and that the answers to the questions posed in the checklist are, to the best of your knowledge, correct.

 Geraldine Smith, Superintendent, JELA Interdisciplinary Team Leader	<u>10/27/04</u> Date
 David Muth, Chief of Planning and Resource Stewardship, JELA Technical specialist/field of expertise	<u>10/27/04</u> Date
 Robin Toole, Fire Planner, SERO Technical specialist/field of expertise	<u>10-22-04</u> Date

Categorical Exclusion Form

Project: Fire Management Plan, Jean Lafitte National Historical Park and Preserve

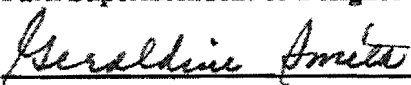
Date: October, 2004

Describe the project, including location (reference the attached Environmental Screening Form (ESF), if appropriate): This project involves the implementation of a Fire Management Plan (FMP) for Jean Lafitte National Historical Park and Preserve, located in Jefferson, Lafayette, Lafourche, Orleans, St. Bernard, and St. Landry parishes, Louisiana. The FMP proposes the suppression of all wildland fires that occur within park boundaries, incorporating the minimum impact suppression tactics policy to the greatest extent feasible for the given situation. It additionally proposes maintenance of existing defensible space around park buildings and sensitive cultural and natural sites, which involves continuing the current park practice of mowing and weedeating during the growing season.

Describe the category used to exclude action from further NEPA analysis and indicate the number of the category (see section 3-4 of NPS-12): DO-12, Section 3.3 (day-to-day maintenance, resource management and activities that have no potential for environmental impact).

Describe any public or agency involvement effort conducted (reference the attached ESF): A consultation letter and copy of the Fire Management Plan was sent to both the U.S. Fish and Wildlife Service and the State Historic Preservation Office. Consultation was additionally conducted with the Chitimacha Indian Tribe.

On the basis of the environmental impact information in the statutory compliance file, with which I am familiar, I am categorically excluding the described project from further NEPA analysis. No exceptional circumstances (i.e., all boxes in the ESF are marked "no") or conditions in section 3-6 apply, and the action is fully described in section 3-4 of NPS-12.

Park Superintendent or Designee  Geraldine Smith Title: Superintendent, JELA	<u>10/27/04</u> Date
NPS Contact Person  Robin Toole Title: Fire Planner, SERO Address National Park Service 100 Alabama St 1924 Building Atlanta, GA 30303 Phone number: (404) 562-3108 x632	<u>10-22-04</u> Date

Appendix 13.5 Fire Call-Up List

Appendix 13.6 Memoranda of Understanding

Appendix 13.7 Limited Delegation of Authority

Delegation of Authority

As of _____ (time), _____ (date), I have delegated authority to manage the (fire name) _____ fire, (fire number) number _____, Jean Lafitte National Historical Park and Preserve, to Incident Commander, _____ and his/her Incident Management Team.

The fire originated as _____ (describe ignition).

It is burning in _____ (describe location/conditions).

My considerations for management of this fire are:

1. Provide for firefighter safety.
2. I would like the fire managed in such a manner that suppression actions will cause little environmental damage as possible.
3. Key cultural features requiring priority protection are: _____

4. Key resource considerations are: _____

5. Restrictions for suppression actions are: _____

6. Minimum tools for use are Type II/III helicopters, chainsaws and weed whips.
7. My agency advisor will be park Fire Management Officer, _____

8. Managing the fire cost-effectively for the values at risk is a significant concern.
9. Providing training opportunities for the South Florida parks personnel is requested to strengthen our organizational capabilities.
10. Minimum disruption of visitor access of the main park road consistent with public safety.

(Signature/date)

Superintendent, Jean Lafitte National Historical Park and Preserve

Appendix 13.8 Park List of Classified Structures (LCS)

JELA List of Classified Structures (LCS)

Preferred Structure Name	Structure Number	LCS ID
Beauregard House	BBE	021367
Chalmette Monument	BMON	021368
Mud Rampart	002	021369
Rodriguez Canal	GCANAL	064952
Chalmette National Cemetery Markers	5	064953
Grand Army of the Republic (GAR) Monument	6	064954
Spotts Marker	7	064955
Superintendent's Lodge	BHQ	064956
Carriage House	BMA	064957
Chalmette National Cemetery Gates	10	064958
Percy-Lobdell Warehouse	LOB-LIBR	064960
Pecan Grove	13	064961
Chalmette National Cemetery Walls	7	064965
Christmas Plantation Field System	14	065000
Chemin de Barataria	15	065002
Kenta Canal	16	065003
419 Rue Decatur	17	065130

Appendix 13.9 Wildland Fire Implementation Plan (WFIP)

STAGE 1

Fire Situation

Fire Name:	
Fire Number:	

Jurisdiction(s):	

Administrative Unit (FMU):	Jean Lafitte National Historical Park and Preserve
Geographic Area:	Louisiana, Jefferson Parish, St. Bernard Parish

Start Date:	
Discovery Date:	
Current Date:	

Start Time:	
Discovery Time:	
Current Time:	

Current Size in Acres:	
------------------------	--

Location (Legal Description) <i>Only if Lat/Long or UTM unavailable.</i>	
--	--

Latitude/Longitude:	°	Minutes	Seconds
---------------------	---	---------	---------

Or

	(decimal degrees)
--	-------------------

UTM:	Easting	Northing	UTM Zone
------	---------	----------	----------

County:	
---------	--

Local Description:	

Cause of Fire:	

Fuel Model/Conditions:	

Current Weather Conditions:	

Predicted Weather Conditions:	

Current Fire Behavior:	

Predicted Fire Behavior:	

Availability of Resources:	

DECISION CRITERIA CHECKLIST

DECISION ELEMENT	YES	NO
Is there a threat to life, property or resources that cannot be mitigate?		
Are Potential effects on cultural and natural resources outside the range of acceptable effects?		
Are relative risk indicators and/or risk assessment results unacceptable?		
Is there other proximate fire activity that limits or precludes successful management of this fire?		
Are there other issues that preclude wildland fire use for resource objectives?		

The Decision Criteria Checklist is a process to assess whether or not the situation warrants continued wildland fire use implementation. A “Yes” response to any element on the checklist indicates that the appropriate management response should be suppression-oriented.

Recommended Response Action	(check appropriate box)
Initial Attack/Suppression Action	
Other Appropriate Management Action	

Signature:	
-------------------	--

Date of Signature:	
---------------------------	--