

FINDING OF NO SIGNIFICANT IMPACT
Fire Management Plan for the Lake Mead National Recreation Area and
Grand Canyon-Parashant National Monument
Clark County, Nevada
Mohave County, Arizona

INTRODUCTION

The National Park Service, Lake Mead National Recreation Area (NRA), has prepared an environmental assessment (EA) that considers alternatives related to the development of a fire management plan for Lake Mead NRA and the Lake Mead NRA portion of Grand Canyon-Parashant National Monument (NM), often referred to as the Shivwits Plateau.

PURPOSE AND NEED

The management authorities for the NPS, including DO-18 (1998) and RM-18 (1999) require that all parks with vegetation capable of supporting fire develop a fire management plan. The overall objective of the fire management plan is to outline in a detailed manner those actions that will be taken by Lake Mead NRA in meeting the fire management goals for the area. In accordance with the *Federal Wildland Fire Management Policy* (1995) and 2001 update, the fire management program will support resource management objectives.

The overall resource goals for the area are to restore natural ecological processes, while protecting the park's natural and cultural resources and surrounding land uses. The fire management plan provides for active management programs, where necessary, to counteract the detrimental impacts of past actions in the recreation area. The plan consists of research to understand the ecological relationships involved in the fire program, resource monitoring to understand human influences on natural and cultural resources and the effectiveness of resource management programs, and active management to correct or mitigate unnatural influences as they are identified.

This environmental assessment analyzes the suppression of unwanted ignitions, management of fire use activities, and mechanical hazard fuel reduction treatment activities within the recreation area.

ALTERNATIVES CONSIDERED

The environmental assessment evaluates the effects of three alternatives: no action (alternative A), an alternative that would implement a full suppression program (alternative B), and the National Park Service preferred alternative (alternative C).

The no action alternative would continue with current fire management at Lake Mead NRA and Grand-Canyon Parashant NM. The fire management program would utilize suppression, wildland fire use, prescribed fire, and mechanical hazard fuel reduction. Existing fire management units (FMUs) as designated in the Lake Mead NRA 1997 Prescribed Natural Fire

Plan, would remain within Lake Mead NRA and would include suppression zones, wildland fire use zones, and resource restoration through the use of prescribed fire. The low desert area would remain designated as a full suppression zone. A wildland fire use program would continue on portions of the Shivwits Plateau area of the Parashant NM. Initial attack suppression actions would be taken on all human-caused wildland fires. Suppression actions would be taken on all escaped prescribed fires, and lightning-caused fires that are within the suppression units would be suppressed. This alternative does not establish management goals for the interface portions of the recreation area and does not meet the plan objectives to minimize the loss of structures and property while ensuring the safety of personnel and the public, including adjacent landowners.

Alternative B proposed to suppress all ignitions, whether they were of natural origin or human-caused. Control objectives would seek to limit fire spread as quickly as possible, while ensuring public and firefighter safety, protecting the cultural, natural, and historic resources, and minimizing costs. In most cases, an appropriate management response with control objectives would entail rapid assignment of firefighters with hand tools and/or engines to contain and control the fire as rapidly as possible. In some cases, the fire may be contained to a single tree, shrub, or small area of vegetation which is completely surrounded by bare soils or rock. By suppressing all fires in Lake Mead NRA and Grand-Canyon Parashant NM, Alternative B does not meet the overall goals and strategies of the project to restore natural and ecological processes while protecting the park's natural and cultural resources and surrounding land uses.

Alternative C is the management- and environmentally-preferred alternative. The preferred alternative constitutes the selected action.

Under this alternative, three FMUs would be designated within Lake Mead NRA (Figures 6-10 in the EA): 1. Interface (FMU1); 2. Desert below 6,000 feet (FMU2); and, 3. Shivwits Plateau (FMU3). Lake Mead NRA and Parashant NM FMUs are differentiated by management objectives, fuels, political boundaries, and values-to-be-protected.

1. Interface FMU

Interface FMU physical description

This FMU has 23 separate interface areas that encompass residential areas, recreational trailer villages, commercial buildings, administrative sites and developed campgrounds, that are within or directly adjacent to the Lake Mead NRA boundary (Figures 6-9, in the EA). These areas are described in the affected environment section of the environmental assessment. The Interface FMU suppression strategy would match that of the shared boundary administrator, be it federal, state, county or local. The suppression response will be identified in Annual Operating Plans that are in accordance with an approved agreement (Master, MOU, Mutual Aid, other).

Interface FMU Strategic Management Objectives

Within this FMU, all wildland fires would be suppressed using an appropriate management response with the intent of minimizing loss of structures and property. The first priority during

these suppression actions would be the safety of personnel and the public, including adjacent landowners.

Management of the Interface FMU is designed to meet the following objectives:

- All fire management activities would have as the highest priority firefighter and public safety.
- Appropriate management responses for all wildland fires (regardless of ignition source) would be rapid containment and suppression to protect the public, check fire spread onto private property, and protect the natural, cultural and historic resources of the recreation area.
- Emphasis would be placed on facilitating reciprocal fire management activities through the development and maintenance of cooperative agreements and working relationships with pertinent fire management entities.
- Hazard fuel reduction would be given high priority in this FMU in and around developed areas, along the interface boundary, and adjacent to cultural and historic sites.
- Mechanical hazard fuel reduction techniques would be applied around suppression zones to reduce fire intensity and severity to lesser levels. This could be the first step in a fuels reduction program followed by prescribed fire.
- Mechanical hazard fuel reduction would be applied around vulnerable cultural and historic sites for protection from fire damage.
- Prescribed fires in the Interface FMU would be accomplished during periods of time or under a prescription that minimizes escape possibilities. If fuel loadings are high enough to make control of the burn difficult then a two-stage process would be considered, such as mechanical treatment followed by prescribed burning.
- Prescribed fire and mechanical treatment would be used to reduce hazard fuel build-ups that occur in the Interface FMU, facilitating protection of values at risk.
- Strong interagency fire and emergency service agency participation would be encouraged within this FMU. Interaction with adjacent landowners through Lake Mead NRA participation in prevention programs and mutual hazard fuels reduction projects would be encouraged.

Interface FMU Management Constraints and Mitigation

- Smoke management reporting procedures for burning in Nevada/Arizona would be followed for all prescribed fire operations.
- Minimum impact tactics would be employed.
- Off-road vehicle use would be prohibited unless approved by the Superintendent.
- Dozers or graders would not be used unless approved by the Superintendent.
- Protection mitigation measures for known historic and cultural resource sites in or near the project area would be assured before a prescribed burn project is initiated.
- Chainsaw use would be approved by the Superintendent.
- Low level aircraft use and retardant would be approved by the Superintendent and may be disallowed if sensitive, threatened, or endangered bird species are near the site.
- All fire management activities would consider safety of personnel and the public as the highest priority.

- Recreation area neighbors, park visitors and the local residents would be notified of all fire management activities that have the potential to impact them.
- All park closures would be at the discretion of the Superintendent.
- No fire management operations would be initiated until all personnel involved receive a safety briefing describing known hazards and mitigating actions, current fire season conditions, and current and predicted fire weather and behavior.
- Fire management operations would be carried out by qualified individuals that promote the safe and skillful application of fire management strategies and techniques.

2. Desert FMU

This FMU was mainly established to encompass the desert tortoise habitat (Figure 10 in the EA). Desert tortoises prefer desert shrub areas such as creosote bush scrub on flats and on slopes up to 5000 feet. Also occurring in this FMU are areas with stands of tamarisk.

Tamarisk is a non-native invasive plant that is displacing the native riparian plants. This FMU would be divided into two zones: a desert habitat zone and a tamarisk zone. Tamarisk control would be the same as described under Alternative A.

Desert FMU Strategic Management Objectives

A. Desert Habitat Zone

- Personnel and public safety would be the highest priority for all fire management activities.
- All wildfires would be suppressed.
- The effects of fire on the ecosystem would be monitored.
- Fire management operations would be carried out by qualified individuals that promote the safe and skillful application of fire management strategies and techniques.

B. Tamarisk Zone

- Personnel and public safety would be the highest priority for all fire management activities.
- Prescribed fires would be conducted in the tamarisk habitat to achieve resource management objectives.
- An herbicide treatment would follow the prescribed burns.
- The effects of fire on the ecosystem would be monitored.
- Fire management operations would be carried out by qualified individuals that promote the safe and skillful application of fire management strategies and techniques.

Desert FMU Management Constraints and Mitigation

A. Desert Habitat Zone

- No fire management operations would be initiated until all personnel involved receive a safety briefing describing known hazards and mitigating actions, current fire season conditions, and current and predicted fire weather and behavior.
- All fire management activities would consider safety of personnel and public as the highest priority.

- Fire management operations would be carried out by qualified individuals that promote the safe and skillful application of fire management strategies and techniques.
- Fire management activities would employ minimum impact tactics.
- The minimum tool analysis would be utilized when determining the appropriate response.
- Off-road vehicle use would be prohibited unless approved by the Superintendent.
- Dozer or grader use would be prohibited unless approved by the Superintendent.
- Fires located in wilderness or potential wilderness will be immediately reported to the Wilderness Coordinator. An aircraft use document will need to be completed and signed by the Superintendent and made part of the fire package if the Incident Commander determines that aerial resources are required.

B. Tamarisk Zone

- No fire management operations would be initiated until all personnel involved receive a safety briefing describing known hazards and mitigating actions, current fire season conditions and current and predicted fire weather and behavior.
- All fire management activities would consider safety of personnel and public as the highest priority.
- Fire management operations would be carried out by qualified individuals that promote the safe and skillful application of fire management strategies and techniques.
- Smoke management reporting procedures for burning in Nevada/Arizona would be followed for all prescribed fire operations.
- Fire management activities would employ minimum impact tactics.
- Off-road vehicle use would be prohibited unless approved by the Superintendent.
- Dozer or grader use would be prohibited unless approved by the Superintendent.
- Protective mitigation measures for known historic and cultural resource sites in or near the project area would be in place before a prescribed burn project is initiated.

Control Problems

Lower lake levels are increasing tamarisk and other vegetative growth. The Muddy River and Virgin River areas have particularly heavy continuous stands of tamarisk that pose a risk to fire spread.

In most other areas there should be no control problems due to lack of fuels and surrounding terrain. Years of high rainfall could create an accumulation of grasses, which could carry a fire, but control still should not be a problem. For fires located on the Newberry Mountain Range, indirect attacks by aerial support would be used as much as possible due to the extreme terrain and the need for firefighter safety. A resource advisor would be present in this area due to the significance of the site to Native Americans.

Desert FMU Values to be Protected and Special Concerns

Sensitive, threatened, and endangered flora and fauna, and their habitat, are of special concern within these zones.

- Any known threatened, endangered, or sensitive species sites would be acknowledged and mitigated for during prescribed burn operations as well as fire suppression actions.

- All known archeological, cultural sites and ethnographic resources would be mitigated for in all fire management activities.

3. Shivwits FMU

Shivwits FMU Physical Description

This FMU is an extremely remote area within the Arizona Strip located on the northwest rim of the Grand Canyon (Figure 11 in the EA). The nearest community is St. George, Utah, which lies 90 miles to the north. Most of the area is without roads; access to the area is via unpaved dirt roads with varying road conditions. Most of the northern boundary is adjacent to BLM administered lands and the southern and eastern boundaries are adjacent to Grand Canyon NP. The area is part of Grand Canyon-Parashant NM, but is still managed under the direction of the NPS at Lake Mead NRA.

There are three main habitat types on the Shivwits Plateau: pinyon-juniper, ponderosa pine, and sagebrush. There are several administrative sites, historical sites, and two special plant populations that would receive full suppression. This is also an area with numerous historic and cultural resources. Any prescribed fire or fire for resource benefit would receive an evaluation from a resource advisor.

Shivwits FMU Strategic Management Objectives

- Personnel and public safety would be the highest priority for all fire management activities.
- All human-caused wildfires would be suppressed.
- Fire for resource benefit would be an option as well as prescribed burning to meet resource objectives.
- The effects of fire on the ecosystem would be monitored.
- Fire management operations would be carried out by qualified individuals that promote the safe and skillful application of fire management strategies and techniques.
- The Mt. Trumbell ponderosa pine research and other widely recognized sources of ponderosa pine restoration information would be utilized and adapted to the situation.

Shivwits FMU Management Constraints and Mitigation

- No fire management operations would be initiated until all personnel involved receive a safety briefing describing known hazards and mitigating actions, current fire season conditions and current and predicted fire weather and behavior.
- All fire management activities would consider safety of personnel and public as the highest priority.
- Fire management operations would be carried out by qualified individuals that promote the safe and skillful application of fire management strategies and techniques.
- Fire management activities would employ minimum impact tactics.
- The minimum tool analysis would be utilized when determining the appropriate response.
- Off-road vehicle use would be prohibited unless approved by the Superintendent.
- Dozer or grader use would be prohibited unless approved by the Superintendent.
- Smoke management reporting procedures for burning in Arizona would be followed for all prescribed fire operations.

- Protective mitigation measures for known historic and cultural resource sites in or near the project area would be in place before a prescribed burn project is initiated or a fire for resource benefit is allowed to burn.
- Fires located in wilderness or potential wilderness will be immediately reported to the Wilderness Coordinator. An aircraft use document will need to be completed and made part of the fire package if the Incident Commander and the Superintendent determine that aerial resources are required.

Control Problems

Fire control is usually very simple due to sparse surface fuels in the primary cover type of pinyon juniper. In the pinyon-juniper areas extreme weather conditions (high winds) are needed to create a large fire due to the lack of fine fuels. The ponderosa pine stands have a more continuous fuel bed but are surrounded on most sides by pinyon-juniper, except on a few northern boundary areas. Control efforts require a more speedy response in the ponderosa type if the fire is determined to be a threat to resource values.

Shivwits FMU Values to be Protected and Special Concerns

Sensitive, threatened, and endangered flora and fauna, and their habitat are of special concern, as are cultural resources.

- Any known sensitive, threatened and endangered species sites would be acknowledged and mitigated for during prescribed burn operations as well as fire suppression actions.
- All known archeological and cultural sites would be mitigated for in all fire management activities.

SELECTED ALTERNATIVE

The National Park Service selected alternative is alternative C, establishing fire management units to allow for a combination of wildland fire use and suppression. This alternative is the same as presented in the environmental assessment with no modifications. Three FMUs would be designated within Lake Mead NRA and would be differentiated by management objectives, fuels, political boundaries, and values-to-be-protected. Alternative C meets the plan objectives of restoring natural ecological processes, protecting the recreation area's natural and cultural resources and surrounding land uses, providing for safety of personnel and the public, and managing prescribed and wildland fires in concert with air quality regulations.

ENVIRONMENTALLY PREFERRED ALTERNATIVE

An alternative must meet the following criteria to be considered an environmentally preferred alternative:

1. Fulfill the responsibilities of each generation as a trustee of the environment for succeeding generations.
2. Ensure for all Americans safe, healthful, productive, and esthetically and culturally pleasing surroundings.
3. Attain the widest range of beneficial uses of the environment without degradation, risk of health or safety, or other undesirable and unintended consequences.
4. Preserve important historic, cultural, and natural aspects of our national heritage and maintain, whenever possible, an environment that supports diversity and variety of individual choice.
5. Achieve a balance between population and resource use that will permit high standards of living and a wide sharing of life's amenities.
6. Enhance the quality of renewable resources and approach the maximum attainable recycling of depletable resources.

Alternative C is the environmentally preferred alternative because, overall, it would best meet the requirements of Section 101 of NEPA. Because the proposed action would enhance the quality of vegetative communities in the Shivwits Plateau, reduce the spread of non-native vegetation in the Mojave Desert environment, restore natural processes while utilizing measures to preserve important historic, cultural, and natural aspects of our national heritage, and ensure a safe, healthful, productive, and esthetically and culturally pleasing surrounding, this alternative best realizes criteria 1, 2, 3, and 4 above. (The alternatives differ little with respect to criteria 5 and 6).

Alternative A (no action) represents continuation of the current fire management program. Existing FMUs, as designated in the Lake Mead NRA 1997 Prescribed Natural Fire Plan, would remain within Lake Mead NRA and would include suppression zones, wildland fire use zones, and resource restoration through the use of prescribed fire. No management goals would be established for the interface portions of the recreation area. The no action alternative does not fully recognize criteria 1, 2, 3, and 4.

Under alternative B all ignitions, whether of natural origin or human-caused, would be suppressed. Although this alternative would seek to limit fire spread as quickly as possible, while ensuring public and firefighter safety, protecting the cultural, natural, and historic resources, and minimizing costs, it would not meet resource management objectives within the recreation area. It would not restore natural processes; it would not protect the Mojave Desert environment from the spread of non-native vegetation; and it would not enhance the vegetative communities and diversity on the Shivwits Plateau. Alternative B does not fully realize NEPA criteria 1, 2, 3, and 4.

MITIGATION

Mitigation measures have been incorporated into the selected alternative to reduce impacts. General mitigation measures are included for soils, vegetation, wildlife, special status species, riparian areas, wilderness areas, grazing, air quality, scenic quality, cultural resources, visitor use, safety, and recreation and national monument operations. Where appropriate, further mitigation is described under mitigation for suppression activities, mitigation for wildland fire use, or mitigation for treatment activities, including prescribed fire and hazard fuel reduction activities.

To mitigate potential impacts to wilderness, the park will employ its standard minimum tool decision process on a project-by-project basis to determine the appropriate suppression techniques. The appropriate tools may depend on the acreage of the area, the location of the unit, the resource goal for the unit, and the timing of the treatment. This process ensures that tools used are the minimum necessary to achieve the desired goal and that their impacts will be temporary and minor and outweighed by the long-term benefits of achieving the desired objectives.

Through consultation with the U.S. Fish and Wildlife Service for compliance with section 7 of the Endangered Species Act of 1973, as amended, specific mitigation measures will be implemented for protection of the desert tortoise, Mexican spotted owl, California condor, bald eagle, Southwestern willow flycatcher, and Yuma clapper rail. In addition, the Service provided technical assistance in developing conservation measures to benefit the Northern goshawk, relict leopard frog, and American peregrine falcon.

The following table describes mitigation measures that will be implemented, including those for the protection of the threatened, endangered, and sensitive species mentioned above.

IMPACT/MITIGATION MATRIX

Impact Topic	Mitigation Measure	Responsibility
Soils	No off-road vehicle use will be permitted unless specifically authorized by the Superintendent.	NPS Fire Specialist and Resource Advisor
	Suppression activities will utilize minimum impact suppression tactics where possible.	
	To protect the soils in the recreation area, fire lines and other soil scars will be restored after the completion of suppression activities.	
	<u>Mitigation for treatment activities:</u> A soil monitoring program may be initiated in cooperation with USGS to determine the effects of the treatment activities, or lack of activities, on soil erosion. Treatment methods would be re-evaluated based on the findings of the monitoring program.	
Vegetation	All areas with rare plants will be mapped and designated as non-treatment units. Full suppression tactics will be used to protect these areas.	NPS Botanist, NPS Fire Specialist, and Resource Advisor
	Areas identified as problem areas for non-native plants will be mapped and designated as full suppression zones, except tamarisk areas. To protect the region from the spread of non-native plants, no personnel or equipment will be permitted in the designated non-native plants problem areas, except in emergency situations.	
	Fire crews will be dispatched to construct control lines around snags, old growth trees, and large down logs.	
	Restoration and seeding activities may occur in wildland fire areas (FMU 3), or areas in the low desert where fire burns prior to suppression (FMU 2). In these circumstances, the NPS restoration specialist and/or burned area rehabilitation team will be consulted to determine the best native seeding for the burned area. Vegetation treatment and seeding activities will be monitored and evaluated on an annual basis.	
	Seeding activities could also occur in the wildland fire use zones. Seeding guidelines are outlined in Appendix F in the EA.	
	Vegetation plots, photo monitoring, and observations will be compiled for analysis to determine treatment effectiveness. Adaptive management principles will be applied throughout all phases of restoration treatments.	

Impact Topic	Mitigation Measure	Responsibility
Vegetation	<p><u>Mitigation for treatment activities:</u> Treatment units will be surveyed prior to any activities to look for rare plants and non-native species. Areas identified as problem areas for non-native plants will be mapped and designated as suppression zones. To protect the region from the spread of non-native plant problem areas, except where authorized by resource project monitors.</p> <p>Thinning will occur in portions of the ponderosa pine treatment areas and pinyon-juniper areas, and only post-settlement trees will be designated for thinning. Cut trees could be removed or burned in place from ponderosa pine treatment areas to reduce the potential for hazard fuel accumulation.</p>	NPS Botanist, NPS Fire Specialist, and Resource Advisor
Wildlife	<p>Surveys will be conducted on potential nesting cavities and all areas where nesting sites are found will be protected by designating the areas as suppression and non-treatment zones. Maps of existing sites and habitat will also be consulted when making decisions and designating suppression or non-treatment zones.</p> <p>A resource management specialist will be present for suppression, wildlife fire use, and treatment activities. Appropriate suppression activities will take place if biologists determine that a fire would adversely impact wildlife habitat.</p>	NPS Wildlife Biologist and Resource Advisor
Threatened, Endangered, and Sensitive Species	<p>Maps of existing and potential habitat will be consulted when planning and implementing the fire management activities. Suppression and non-treatment zones will be designated around potential and known habitat for threatened, endangered, and sensitive species. Surveys will continue in the region as directed by the NPS wildlife biologists. If more potential habitat is designated, these areas will also be designated as non-treatment zones.</p>	NPS Wildlife Biologist

Impact Topic	Mitigation Measure	Responsibility
Threatened, Endangered, and Sensitive Species	<p>Desert Tortoise Mitigation for suppression activities is detailed in <i>Fighting Wildfire In Desert Tortoise Habitat: Considerations for Land Manager</i> (Duck et al.) and refined in Appendix A of that document, <i>A Hierarchy for Fire Suppression Activities in Desert Tortoise Habitats</i>. This has been adopted by managers throughout desert tortoise habitat and will be adopted in the fire management plan. That document is found in Appendix G in the EA.</p>	NPS Wildlife Biologist and NPS Fire Managers
	<p>Mexican spotted owls Surveys will be conducted on the Shivwits Plateau. Preliminary surveys by NPS wildlife biologists found no Mexican spotted owls. Follow-up two-year surveys began in 2002 in accordance with U.S. Fish and Wildlife Service protocol. The survey areas will continue to focus on ponderosa pine stands, slot canyons, and riparian zones. If Mexican spotted owls are found, all vegetation treatment operations in that area will be halted and further consultations with the U.S. Fish and Wildlife Service will be initiated.</p>	
	<p>Northern goshawks Surveys will be conducted on the Shivwits Plateau. Surveys will be conducted in all areas in which fire activities are planned, and no activities will occur in areas where goshawks are nesting. Goshawks have a lengthy nesting period, and the sensitive period for breeding goshawks extends from early March through September. Any burning scheduled for this period will be preceded by a goshawk survey. Goshawk surveys will be coordinated through the Resource Management Division, Lake Mead NRA. If goshawks are discovered in an area proposed for burning, fire managers will consult with the park's wildlife biologists to determine an acceptable course of action, which may include delaying the burn schedule or altering the location of the proposed burn.</p>	

Impact Topic	Mitigation Measure	Responsibility
<p>Threatened, Endangered, and Sensitive Species</p>	<p>California condor If condors are found inhabiting portions of the Shivwits region, those areas will be designated as non-treatment zones. In addition, the following mitigation measures will be adopted specifically for the protection of the California condor.</p> <p>If condors occur in the action area during mechanical treatment operations, activities within 300 feet of the bird will cease until it leaves on its own or until techniques are employed by permitted personnel which result in the individual leaving the area.</p> <ul style="list-style-type: none"> ✦ All on-site personnel will be informed to avoid interacting with condors and immediately contact the NPS wildlife biologist or resource staff so they can inform the U.S. Fish and Wildlife Service or Peregrine Fund personnel. ✦ The Lake Mead NRA fluid leakage and spill plan will be followed at all times. ✦ Open water sources such as “pumpkin” inflatable water storage tanks will be covered when not in use. ✦ If condors are located near the project area, weather conditions will be evaluated by Prescribed Fire Specialists and Resource Advisors to determine the potential for impacts from smoke on the condors. Prescribed fire will be cancelled if weather conditions increase the impacts of smoke on condors. 	<p>NPS Wildlife Biologist, NPS Fire Specialist, Resource Advisor</p>

Impact Topic	Mitigation Measure	Responsibility
<p>Threatened, Endangered, and Sensitive Species</p>	<p>Habitat for the Southwestern willow flycatcher, Yuma clapper rail, and relict leopard frog could exist in the spring riparian areas.</p> <p>Southwestern willow flycatcher and Yuma clapper rail The tamarisk treatments occur in small isolated patches (1 to 5 acres) associated with springs that form narrow thickets usually only one tree width along linear stream courses. Most if not all of the tamarisk prescribed burn treatment sites occur within areas that no potential breeding habitat for Southwestern willow flycatchers. However, this determination is still evaluated on a case by case basis of each treatment site prior to implementing a prescribed burn tamarisk control project.</p> <p>The Southwestern willow flycatcher and Yuma clapper rail will be protected from treatment activities. Surveys in accordance with U.S. Fish and Wildlife Service protocol will occur for Southwestern willow flycatchers prior to any treatment activities. Surveys will also occur for the Yuma clapper rail in suitable habitat. If nests or these species are found, these areas will be designated as non-treatment sites.</p> <p>Treatment will include planting native riparian vegetation to restore the springs. Spring restoration will improve habitat for Southwestern willow flycatchers and other riparian bird species.</p> <p>Relict leopard frog The relict leopard frog exists in several springs around Lake Mead NRA. Extensive surveys have occurred for the past several years, and are continuing for the foreseeable future. All spring and riparian areas will be surveyed prior to any treatment activities. The portions of the springs inhabited by the relict leopard frog will not be treated by prescribed burning. Instead, under the direction of the wildlife biologist, non-native vegetation will be cut and removed from these areas. No slurry or fire retardant chemicals will be utilized in spring and riparian areas or within 300-feet of these areas.</p>	<p>NPS Wildlife Biologist</p>

Impact Topic	Mitigation Measure	Responsibility
Riparian Areas	<p>Suppression actions will be undertaken in riparian areas, except those designated as tamarisk control areas, to prevent riparian areas from burning in order to preserve streamside vegetation and upslope cover and prevent further erosion. No slurry or fire retardant chemicals will be utilized in spring and riparian areas or within 300-feet of these areas.</p>	NPS Fire Specialist
	<p>All herbicides utilized in riparian areas will be applied according to label instructions and not applied directly to water. Backpack sprayers will be utilized which pinpoint the herbicide treatment to the cut stumps and/or the small tamarisk resprouts.</p>	
Wilderness Areas	<p>Suppression and burn methods will be those that minimize the impact of the action and the fire itself to ensure that the wilderness character is preserved. The minimum tool decision tree will be utilized for each project to determine the appropriate suppression and monitoring technique.</p>	NPS Fire Specialist and NPS Wilderness Coordinator
	<p>The “Light Hand” and “Minimum Impact Suppression Techniques” (MIST) (Appendix E in the EA) will be employed for all fire activities where determined appropriate after a minimum tool evaluation. Light hand suppression involves the use of minimum impact strategies and tactics. Each burn will be evaluated on a case-by-case basis to determine the appropriate tools. The appropriate tool will depend on the acreage of the area, the location of the unit, the resource goal for that unit, the timing of the treatment, and the staff available for the treatment and/or suppression.</p>	
	<p>Prescribed burn units are located and designed to make use of natural and unnatural fuel breaks. Lake Mead NRA burn unit boundaries utilized roads, natural fuel breaks, and natural features such as canyon rims, rocks, and drainages. This reduces the use of constructed fire-lines; and most burns do not require any perimeter fireline construction. Light hand tactics in prescribed burns also exclude the use of bulldozers. Handlines are the only constructed fireline used at Shivwits. Indirect fire suppression strategy using natural barriers and backfiring and burnout creates less impact and line construction than direct attack.</p>	

Impact Topic	Mitigation Measure	Responsibility
Wilderness Areas	Other light hand suppression actions include the use of air tankers to create retardant lines as well as helicopters to build wetline along the fire perimeter. Engine crews can be used to put in hoses to minimize disturbance.	NPS Managers and NPS Fire Specialist
	Fire lines and other soil scars will be restored after completion of management activities. Park managers will apply the minimum requirement concept to determine the appropriate management practice and the minimum tool analysis to determine the appropriate equipment used in proposed and potential wilderness areas in order to preserve the wilderness character of the area.	
Grazing	Grazing may be temporarily restricted in some treatment areas. However, after a period of 1 to 2 years, grazing could be reinstated in certain treatment areas if park biologists and BLM Range Conservationists determine that these areas are suitable for grazing.	Grand Canyon-Parashant NM Range Management Specialist
Air Quality	Smoke management is critical within this region when managing any form of fire. Arizona Department of Environmental Quality (ADEQ) and Clark County Department of Air Quality smoke management procedures, requirements, and recommendations will be followed during all phases of a prescribed fire, during any suppression activity, or during burning of treated vegetation debris.	NPS Fire Specialist
	A burn plan will be submitted to the appropriate agency for approval upon designation of a prescribed fire, followed by a daily burn request and accomplishment report (Arizona only). Monitoring of smoke will be a high priority that will include approximate volume, dispersal, mixing heights, atmospheric conditions, and any other smoke concerns.	
Scenic Quality	Management objectives will include requirements that the existing character of the natural landscape be retained. Any changes caused by the treatment of vegetation will repeat the basic elements (line, form, color, and texture) found in the predominant natural features of the landscape.	NPS Managers and NPS Resource Management Specialist

Impact Topic	Mitigation Measure	Responsibility
<p>Cultural Resources</p>	<p>Specific mitigation and monitoring measures employed for cultural resources at Lake Mead NRA are discussed in Appendix H in the EA.</p> <hr/> <p>Impacts to cultural resources resulting from fire management actions can be direct, operational, or indirect. Direct, operational, and indirect effects are discussed in Appendix H in the EA.</p> <p><u>Direct Effects</u> Mitigating and monitoring the direct impacts of fire on cultural resources will be accomplished through a variety of methods.</p> <ul style="list-style-type: none"> ✦ A pre-burn cultural resources survey of the appropriate extent and intensity will be conducted in every prescribed burn unit. This survey will encompass not only the unit itself, but also take into account surrounding areas that do, or have the potential to, contain cultural resources of interest. In areas where pre-burn ground visibility precludes adequate survey, such areas will be noted and inspected in a post-burn phase for any undocumented resources. ✦ Pre-burn survey may be conducted in FMU-3 during Wildland Fires for Resource Benefit (WFRBs) if cultural resources of interest are known or expected to occur in the maximum management area (MMA). If the fire intensity of a WFRB is expected to exceed the damage threshold of cultural resources of interest, a Cultural Resource Specialist will work with Fire Management staff to configure the MMA so that resource damage resulting from direct effects will be minimized. In cases where damage levels will be unacceptable, a proposed WFRB will be declared wildfire and suppressed using the appropriate measures. ✦ All documented cultural resources of interest will be assessed with respect to vulnerability from direct fire effects, including material composition and condition and predicted fire intensity. ✦ In cases where a cultural resource of interest is likely to sustain adverse impacts from direct fire impacts, appropriate mitigation measures will be employed. These include, but are not limited to, 	<p>NPS Cultural Resource Specialist, NPS Fire Management Staff, and Resource Advisor</p>

Impact Topic	Mitigation Measure	Responsibility
	<p>reducing excess fuel loads, constructing fuel breaks, use of fire retardants and shelters, permanent or temporary resource collection and field documentation. Particularly significant and/or vulnerable cultural resources of interest outside of prescribed burn areas will be mitigated and maintained on an appropriate cyclical basis.</p> <ul style="list-style-type: none"> ✦ A monitoring program will be initiated in order to assess the effectiveness of particular mitigation measures. This will include observations on treated resources of interest during fires, as well as post-burn assessments of treated resources. Objective measurement criteria will be utilized and the results employed to refine mitigation measures. <p><u>Operational Effects</u> Mitigating and monitoring operational effects on cultural resources will be accomplished through a variety of methods.</p> <ul style="list-style-type: none"> ✦ All areas of proposed ground disturbance and fire management activity will be inspected for cultural resources of interest prior to all prescribed burns and mechanical thinning projects. ✦ To the extent possible, all potentially ground disturbing activities associated with prescribed burns and mechanical thinning projects will be conducted outside the boundaries of cultural resources of interest. In cases where this is not possible and/or desirable, those operational activities resulting in the least impact will be employed. Cultural resources of interest will also be considered when implementing firing operations during prescribed burns. ✦ A fireline-qualified Cultural Resource Specialist will be present during and after all prescribed burn and mechanical thinning projects in order to conduct additional survey as needed, as well as monitor activity around cultural resources of interest. ✦ In the event of a wildfire in or adjacent to Lake mead NRA, pertinent cultural resources data will be made available to appropriate Fire Management personnel for planning purposes. A Cultural Resource Specialist will be available on all incidents to provide input on cultural resource 	

Impact Topic	Mitigation Measure	Responsibility
	<p>issues to the appropriate Fire Management personnel. To prevent unwanted distribution, access to cultural resources data will be closely controlled.</p> <ul style="list-style-type: none"> ✦ In the event of a wildfire in or adjacent to Lake Mead NRA, a Resource Advisor with knowledge of cultural resources will accompany fire crews into the field. Ideally, a Resource Advisor will be assigned to each hand crew or piece of heavy equipment, with a minimum adequate staffing level of one Resource Advisor per division. Resource Advisors will survey areas of proposed ground disturbance, not cultural resources already impacted by direct or operational effects, and identify potential areas for indirect effects. ✦ Prior to each fire season, a Cultural Resource Specialist will give a presentation on cultural resources during Annual Fireline Safety Refresher Training courses held at Lake Mead NRA. A brief information guide on cultural resources and Minimum Impact Suppression Tactics (MIST) will be prepared and made available to pertinent fire management entities that have suppression responsibilities within and adjacent to Lake Mead NRA. Following winters with precipitation in excess of eight inches at the Lake Mead NRA headquarters in Boulder City, a Cultural Resources Specialist will visit fire stations of cooperator fire management entities and provide information on cultural resources and MIST. <p><u>Indirect Effects</u> Mitigating and monitoring indirect effects on cultural resources will be accomplished through a variety of methods.</p> <ul style="list-style-type: none"> ✦ A Cultural Resource Specialist will inspect all recorded cultural resources of interest following a given fire management action. Information on potential indirect effects will be collected for each, and, if necessary, appropriate mitigation tactics implemented such as site stabilization measures in the case of erosion threats, felling of fire-killed snags on or near cultural resources, and stepped up law enforcement patrols to deter looting. 	

Impact Topic	Mitigation Measure	Responsibility
	<p>★ A Cultural Resource Specialist will perform select cultural resource inventory of areas subjected to fire management actions. The amount and location of inventory will be dictated by a combination of cultural resource and fire-related factors. For example, previously unsurveyed areas with high cultural resource sensitivity that burned at a high intensity would be preferentially surveyed over a high sensitivity area that burned at a low intensity. Areas with poor ground visibility, such as the ponderosa pine stands in FMU-3, will be targeted for post-burn survey following prescribed burns, WFRBs and wildfires. All previously undocumented cultural resources will be recorded to current professional standards, and data will be collected on resource condition and potential indirect effects. If necessary, appropriate protective measures will be implemented on resources of interest.</p> <hr/> <p><u>Standard Procedures</u> In addition to the procedures identified to mitigate and monitor direct, operational, and indirect fire effects, the following measures will be taken in association with each Fire Management action at Lake Mead NRA and Parashant NM.</p> <p>★ Native American consultation includes the following:</p> <p>Consult with tribes in initial phases of planning of burns and treatment activities. Consultation has been ongoing and will continue as new areas are considered for burning and new issues develop.</p> <p>Work with tribes to identify sensitive areas in terms that are agreeable to tribal members (e.g., document location, but not cultural function). Develop acceptable protocol for making that information available to fire personnel for both prescribed burns and wildfires.</p> <p>Following wildfires, notify tribes with a narrative, report, letter of explanation with map, and/or news release relating to the fire.</p>	

Impact Topic	Mitigation Measure	Responsibility
	<p>✦ Wildfires in Traditional Cultural Properties:</p> <p>Contact affiliated tribes immediately. Keep tribes informed through the fire event. Provide summary letter of fire and suppression activities.</p> <p>Use water drops over retardant where appropriate. If retardant is crucial to suppression of fire, clear retardant is requested. Colored retardant will be avoided in sacred areas.</p> <p>Use fire trained archeologists to work with crews to avoid destroying archeologically dense areas.</p> <p>Utilize “light on the land” suppression techniques.</p> <p>Restore area utilizing native grasses and other native vegetation.</p> <p>✦ Lake Mead NRA Fire Management staff will provide pertinent project information to Cultural Resource Specialists prior to each proposed undertaking, such as project schedule and description, maps (project boundary, areas of proposed disturbances, fire history, fuels, etc.) and burn prescriptions. Ideally, such information will be available at least one year prior to project implementation.</p> <p>✦ All Cultural Resource Specialists performing duties for fire management activities with Lake Mead NRA will meet minimum qualifications put forth in the <i>Secretary of Interior’s Guidelines for Historic Preservation Projects, Professional Qualifications Standards</i> (1983).</p> <p>✦ All cultural resources will be documented using respective record forms of the states of Nevada or Arizona.</p> <p>✦ Reporting standards will follow those outlined in the cultural resource component of the Fire Management Plan.</p> <p>✦ Opportunities for fire-related research will be identified and funding sought from the appropriate sources. Potential research topics at Lake Mead NRA and Parashant NM include direct and indirect</p>	

Impact Topic	Mitigation Measure	Responsibility
	<p>effects on material culture, fire effects on plants of importance to Native Americans and reconstructing aboriginal burning patterns. Potential funding sources include FirePro Research, various cultural resource sources (e.g., Systemwide Archeological Inventory Program) and external programs.</p>	
<p>Visitor Use</p>	<p>Visitors will be directed to alternate recreation sites and informed that fire suppression activities, prescribed fire activities, or vegetation treatments are taking place.</p>	<p>NPS Public Information Officer and Fire Specialist</p>
<p>Safety</p>	<p>Fire crews will wear required personal protective equipment (PPE) at all times during any prescribed fire, fire suppression, or debris burning activities. Mandatory PPE includes:</p> <ul style="list-style-type: none"> ✦ 8-inch high, laced, leather boots with lug soles ✦ Fire shelter ✦ Hard hat with chin strap ✦ Goggles/safety glasses ✦ Ear plugs ✦ Nomex shirts ✦ Nomex trousers ✦ Leather gloves <p>No PPE will be purchased that is not National Fire Protection Association compliant or that does not meet standards.</p> <p>Each burn plan will contain holding and wildland fire transition plans describing appropriate actions in the event the prescription is exceeded. All burn plans will address the need for alerting park neighbors and appropriate public officials to the objectives and timing of the planned burn and designate a specific individual as responsible for making these notifications. No fires will be ignited unless the responsible personnel determine immediately prior to the fire that optimum conditions exist to prevent the fire from exceeding prescription.</p> <p>Fire suppression zones will be designated around administrative structures, residential areas, and recreational sites. In these areas, appropriate suppression activities will occur to protect these resources.</p> <p>Hazard fuel reduction will occur around residential, historic, and administrative structures to prevent wildland or structural fires in these areas.</p>	<p>NPS Fire Management Officer</p>

Impact Topic	Mitigation Measure	Responsibility
Recreation Area and National Monument Operations	Fire management units will be established. Prescriptions will be set within these units to determine the appropriate management action. The purpose of these prescriptions and the decision process is to prevent fires from developing into high-intensity wildfires and to allow managers to meet resource objectives.	NPS Fire Management Officer
	The policies for handling an escaped prescribed fire are contained within RM-18 and exiting interagency agreements, and will be followed under this plan.	
	Fire effects monitoring will be completed in selected plots after each burn to evaluate the degree to which objectives are accomplished. Long-term monitoring of the overall project will be required to document that overall programmatic objectives are being met and undesired effects are not occurring.	

ENVIRONMENTAL CONSEQUENCES OF THE PROPOSED ACTION

Vegetation and Soils

As a result of implementing the proposed action, there would be minor impacts in the lower desert unit to vegetation due to the construction of firelines. If wildland fires occur under the wildland fire use program on the Shivwits Plateau unit, vegetation would burn, and it could eventually result in an improved, more diverse vegetative community. There is the potential for non-native species to establish after a burn, which could alter the vegetative community of the area, and create moderate adverse impacts. The use of prescribed fire and herbicide treatment to eliminate non-native vegetation in springs and riparian areas would benefit native vegetation, soils, and habitat in those areas. The removal of native and non-native vegetation around at-risk developed areas would damage vegetation, but this would affect primarily non-native vegetation. Therefore, this would be a beneficial impact, which could result in reduced spreading of non-native vegetation within the recreation area. There would be no impairment to vegetation and soils as a result of the impacts associated with this alternative.

Wildlife

Fires that escape containment in the lower desert unit could degrade wildlife habitat and cause mortality to wildlife that is unable to escape the fire. This is unlikely, but there is more potential for escape in moist years when grasses are present. The construction of firelines could temporarily displace or disturb wildlife. These impacts could create negligible to minor impacts.

Wildlife habitat would continue to improve under this program on the Shivwits Plateau. Mortality could occur to wildlife that cannot move away from the wildland fire. Other wildlife could be temporarily displaced during fires. This could lead to negligible to minor impacts to wildlife and wildlife habitat. In general, wildland fires would improve the overall quality of the wildlife habitat on the Shivwits Plateau.

Riparian areas would continue to be restored under this alternative, and wildlife habitat would improve in these areas throughout the recreation area.

Since only small numbers of wildlife could be displaced or killed by wildland fires or prescribed fires, and no species would be permanently impacted by these activities, there would be no impairment to wildlife under this alternative.

Sensitive, Threatened and Endangered Species

Suppression activities are likely to adversely affect the desert tortoise as they may be moved, injured, or killed by vehicle use in tortoise habitat. In addition, suppression activities may not be successful and desert tortoise habitat could be temporarily damaged from fires and loss of habitat. A fire that cannot be immediately contained could displace desert tortoise or cause direct mortality if tortoises could not move away from the fire. Mitigation would reduce these impacts, but cannot completely eliminate the impacts. Other sensitive species, such as the chuckwalla, banded Gila monster, and the Western burrowing owl could be displaced due to suppression or fire activities. Known sensitive plant habitat in the low desert would be protected from fire.

In the wildland fire use zone of the Shivwits Plateau, the quality of habitat should improve over time. There would be no adverse impact to bald eagles. The Mexican spotted owl could be adversely affected if a wildland fire damages or destroys nest sites. The wildland fire program on the Shivwits Plateau is not likely to adversely effect the California condor.

Temporary minor, adverse impacts could occur to the peregrine falcon due to displacement from their habitat during fire activities. Minor to moderate adverse impacts could occur to Northern goshawks if unknown or unrecorded nest sites are destroyed by fire. No listed plant species occur on the Shivwits Plateau, but sensitive and rare plants do occur. Known populations would be designated as suppression zones and protected from fires.

Non-native plant control in riparian areas would not likely adversely effect the Southwestern willow flycatcher and the relict leopard frog, due primarily to the mitigation measures that would be adopted under all alternatives. Plant control and removal in interface zones would have no effect on sensitive or listed species.

There would be no impairment to sensitive species as a result of the impacts associated with this alternative.

Air Quality and Visibility

Minor to moderate impacts to air quality from smoke, vehicle and equipment emissions, and dust, could occur on a temporary and localized basis during project work. National ambient air quality standards or allowable Class II requirements would not be exceeded. There would be no impairment to air quality as a result of implementing Alternative C.

Scenic Quality

The impacts to the scenic quality of the low desert region from fire suppression and non-native plant control activities would be minor as they would occur on a small scale and would not detract from the scenic quality of the area. Temporary minor impacts to the scenic quality of the Shivwits Plateau region could occur from fireline construction, smoke and air quality, and by the creation of burned areas. As more open forests areas are created by wildland fire use, there could be beneficial impacts to the scenic quality of the region. There would be no impairment to the scenic resources in the area as a result of the impacts associated with this alternative.

Water Resources, Including Riparian Areas and Wetlands

Suppression activities would have no impact to water quality and would create negligible impacts to water resources by utilizing portions of Lake Mead NRA's water allotment. Wildland fire use would have no effect to the Colorado River resources or water quality. Minor, negligible impacts to springs and riparian areas on the Shivwits Plateau could occur because of run-off from burn areas, or erosion caused by suppression techniques. Minor impacts to the water table could occur from utilizing water from wells during suppression efforts. Burning and herbicide use in riparian areas in the low desert could have temporary, minor impacts to water quality. These impacts are negated by the beneficial impact to the water quality of removing tamarisk that would lead to a reduction in salinity of the water resources in treated springs. These impacts are negated within two years following tamarisk removal by the recovery of desirable plants. Post treatment monitoring from previous tamarisk control projects has shown that native plants re-colonize the bare ground within two years due to an increase in soil moisture caused by the removal of tamarisk.

There would be no impairment to water quality and riparian areas as a result of the impacts associated with this alternative.

Visitor Use and Experience

Impacts to visitor use range from minor to major, depending on the amount of acreage closed to visitor access, the amount of acreage available nearby, and the visitor's intention and flexibility. Overall, closures occur to protect the visitors and to protect the resources for future visitor use. Therefore, in the long-term, there would be positive impacts to visitor use from temporary closures.

Grazing and Socioeconomic Resources

Temporary minor to moderate negative impacts could occur to grazing, depending on the location and duration of wildland fires and suppression activities, and the rate of recovery. In the long-term, beneficial impacts on the Shivwits Plateau portion of the recreation area would occur as native plant community re-establishes in the area, natural process are restored, and range conditions are improved.

Cultural Resources

Unknown cultural resources could be burned and irretrievably lost under this alternative. This alternative would result in moderate to major impacts to cultural resources. However, surveys for cultural resources would continue within the recreation area, and significant cultural resources would be identified and protected by creating suppression zones.

With mitigation and protective measures, including pre-burn surveys, on-site monitors for cultural resources, and the designation of suppression zones around known cultural resources, the level of this impact is reduced to moderate.

This alternative would not result in impairment to cultural resources as it would not result in the loss, destruction, or degradation of a cultural property, resource, or value to the point that it negatively affects the park's purpose and visitor experience.

Park Operations, Public Health, and Safety

There would be no impact to park operations as staff currently exists to manage the suppression, wildland fire use, and non-native treatment programs. Exposure to smoke can create minor to major impacts to firefighter health and safety depending on conditions, individual health, and time spent working on high-risk tasks in high-risk areas. During non-native vegetative treatment activities, exposure to smoke and the hazards associated with smoke is reduced by mitigation but could create minor to moderate impacts to fire fighter safety and health.

Wilderness

Minor, short-term impacts would occur to the wilderness area due to treatment activities. However, the character of the wilderness would not be permanently impacted and no impairment to wilderness would occur as a result of the impacts associated with this alternative. The use of chainsaws, prescribe fire, and herbicides have been determined by land managers to be the minimum tools for non-native plant control in riparian areas. Aerial support may be utilized for some suppression activities. The impacts from these tools, including noise and visual intrusions, are minor and temporary, and are outweighed by the long-term benefits of restoring wilderness character and ecosystem function.

Land Use

Under the selected alternative, no impacts to right-of-way corridors would occur.

Cumulative Effects

Cumulative impacts were analyzed for all of the impact topics. Where appropriate, this included consideration of other fire management programs in the region by other agencies. For soils and vegetation, long-term beneficial effects are expected. For wildlife, threatened and endangered species, air quality, scenic quality, and visitor use, impacts would be minor and temporary; thus cumulative effects would be negligible to minor.

PUBLIC INVOLVEMENT AND CONSULTATION

Staff of Lake Mead NRA and resource professionals from the National Park Service conducted internal scoping. This interdisciplinary process defined the purpose and need, identified

potential actions to address the need, determined the likely issues and impact topics, and identified the relationship of the proposed action to other planning efforts at Lake Mead NRA.

The following organizations and individuals were consulted during the development and/or review of the proposed Fire Management Plan and Environmental Assessment: U.S. Geological Survey, Western Ecological Research Center, Bureau of Land Management, Arizona Strip District, U.S. Department of Agriculture, Natural Resource Conservation Service, Grand Canyon National Park, Grand Canyon-Parashant National Monument, U.S. Fish and Wildlife Service, Arizona and Nevada, Nevada Department of Wildlife, Arizona Game and Fish Department, Arizona State Historic Preservation Office, Arizona Department of Environmental Quality, and Shivwits Grazing Allottees.

Public scoping was conducted in January and February, 2001 through the publication of press releases in area newspapers and through information available on the Lake Mead NRA website. It was hoped that issues would be identified by the public related to fire management at Lake Mead NRA; however, no public comments were received.

The environmental assessment was made available for public and agency review and comment for a 30-day period ending September 3, 2004. Lake Mead NRA provided copies of the document to area libraries and interested parties on the park mailing list. Approximately eighty copies of the document were distributed to individuals, businesses, libraries, and organizations on the recreation area's mailing list. The list of organizations includes interest groups such as the Nature Conservancy, the Sierra Club, Arizona Wilderness Coalition, Wilderness Watch, Arizona Wildlife Federation, Nevada Wildlife Federation, Defenders of Wildlife, and numerous others. The full mailing list is available on request. The document was available for review on the park Web site, and interested parties could contact the park by phone or mail to request copies of the document.

Agency comments were received from the Bureau of Reclamation, the Nevada State Clearinghouse, the Nevada State Historic Preservation Office, and the Nevada Department of Wildlife. The Bureau of Reclamation noted that the Lower Colorado River Habitat Conservation Plan referred to on page 123 of the EA is still in draft form. The Nevada State Historic Preservation Office complimented the NPS on the clear and concise outline of the means by which will consider effects to historic properties. The Nevada Department of Wildlife commented that several measures contained within the preferred alternative are in agreement with several of its own management objectives for the conservation of wildlife habitat. The Nevada State Clearinghouse processed the proposal and had no comment.

The NPS also received a letter from an individual with the Sierra Club. Numerous comments were included, and a formal response letter will be prepared. Substantive comments within the scope of the EA were related to the ponderosa pine thinning model and the extent of surveys and monitoring being proposed in conjunction with fire management activities. Numbers and sizes of trees to be thinned were not specifically identified in the EA because these parameters will vary among burn sites, and different levels of thinning may be necessary to meet desired conditions. However, old-growth trees are protected in all cases. The term "pre-settlement," as used in the EA, refers to conditions prior to humans' heavy fire suppression policies that altered

natural fire regimes. The term does not indicate an intention to recreate forest conditions associated with a specific point in time; the goal is to manage fire in a way that allows the re-establishment of naturally functioning ecosystems and results in a natural range of variability in forest conditions. Protection and monitoring of biological and cultural resources is included in the program and satisfies all applicable laws and policies. Habitat monitoring has been ongoing on over 60 monitoring plots since 1993; monitoring follows the guidelines of the National Park Service's Fire Monitoring Handbook.

PERMITTING REQUIREMENTS

This project does not require compliance with Executive Order 11988 (Floodplain Management), since there would be no construction within the flood plain. It does require compliance with Executive Order 11900 (Protection of Wetlands), since components of the project involves restoration activities and removal of non-native species in riparian and spring areas within the recreation area. Actions designed specifically for the purposes of restoring degraded natural wetland, stream, riparian, or other aquatic habitats or ecological processes are excepted from NPS Statement of Finding Requirements (NPS *Procedural Manual #77-1, Wetland Protection*, Section 4.2 A.1.e.).

The fire management plan requires formal consultation under section 7 of the Endangered Species Act of 1973, as amended. A biological assessment was prepared for the U.S. Fish and Wildlife Service, and a Biological Opinion was issued on September 17, 2004 (AZ File No. 2-21-02-F-0509, NV File No. 1-5-04-F-519).

Upon designation of each prescribed fire, a separate burn plan would be submitted to the Arizona Department of Environmental Quality and/or the Clark County Department of Air Quality Management for approval, followed by a daily burn request and accomplishment report. In addition, an approved burn plan for each prescribed fire would be filed in the Lake Mead NRA superintendent's office prior to each burn. The Fire Management Plan is a programmatic document and does not provide project-specific analysis of potential impacts; additional environmental compliance, with public review as appropriate, will be completed for all fire projects not specifically addressed in the EA.

IMPAIRMENT OF PARK RESOURCES OR VALUES

The effects of the proposed action will not impair park resources or values necessary to fulfill specific purposes identified in the park's enabling legislation. Impacts documented in the environmental assessment and summarized above will not affect resources or values key to the natural and cultural integrity of the park or alter opportunities for the enjoyment of the park. The proposed action will not impair park resources and will not violate the National Park Service Organic Act. This conclusion is based on a thorough analysis of the impacts described in the environmental assessment, the agency and public comments received, and the professional judgment of the decision-maker in accordance with *National Park Service Management Policies*, 2001.

CONCLUSION AND BASIS FOR DETERMINATION

Based on the analysis completed in the environmental assessment, the capability of the mitigation measures to reduce, avoid, or eliminate impacts, and with due consideration of public response, the National Park Service determined that the selected alternative does not constitute an action that normally requires the preparation of an environmental impact statement.

The selected alternative does not constitute a major federal action significantly affecting the quality of the human environment. The selected alternative would provide for protection to the Lake Mead NRA environment, including protecting the Mojave Desert environment from the spread of non-native vegetation. It would help enhance the quality of the vegetative communities on the Shivwits Plateau, by restoring the natural processes, while utilizing control measures to preserve important historic, cultural, and natural aspects of our national heritage. The selected alternative would assure a safe, healthful, productive, and esthetically and culturally pleasing surrounding, while providing some beneficial impacts to soils and vegetation, wildlife, threatened and endangered species, wilderness areas, grazing, scenic quality, and cultural resources. There are no significant impacts to safety, riparian areas, air quality, visitor use, or recreation area and national monument operations.

There are no highly uncertain or controversial impacts, unique or unknown risks, significant cumulative effects, or elements of precedence identified. Implementation of the action would not violate any federal, state, or local environmental protection law. Therefore, in accordance with the National Environmental Policy Act of 1969, and regulations of the Council on Environmental Quality (40 CFR 1508.9), an environmental impact statement will not be prepared for this project and the selected action may be implemented as soon as practical.

Recommended:

William K. Dickinson
Superintendent, Lake Mead National Recreation Area

Date

Approved:

Jonathan B. Jarvis
Regional Director, Pacific West Region

Date