Department of the Interior
National Park Service

WILDLAND FIRE MANAGEMENT PLAN

CAPITOL REEF NATIONAL PARK
UTAH

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EXECUTIVE SUMMARY

When approved this document will supersede Capitol Reef National Park's wildfire management plan (FMP) approved in November 1989. Major components of this new plan include:

- - new program adopting the Appropriate Management Response for all wildland fires, and allowing Wildland Fire Use for resource benefits, where/when appropriate,

- - new managed fire program coordinated with other federal agencies that border the Park,

- - format changes in accordance with Director's Order 18 (DO- 18) of November 1997, the National Fire Plan, and the various fire policy updates and initiatives from 2001 on.

On June 5, 2003, two new NEPA Categorical Exclusions were published in the *Federal Register* (Vol 68, No. 108, pages 33814- 33824) to assist federal agencies in their fire management programs. The NPS Intermountain Region determined that in limited instances park FMPs may use the new Categorical Exclusions for their NEPA compliance, as long as the DOI categorical exclusion conditions are met. Capitol Reef National Park followed the CE process and this FMP meets those specified guidelines.

There is little evidence or history of past fire within the Park. From 1977 through 2005, a total of 12 fires were reported in the Park but none were over half an acre in size. The vast majority of the Park does not contain large enough or dense enough patches of vegetation to sustain a fire, and therefore fire effects on resources are minimal.

This plan provides for appropriate fire management actions in Capitol Reef National Park, laying out guidelines for initial and extended attack, and wildland fire use. The appropriate management response will be the primary strategy utilized to manage all fires; it will reduce risks to firefighting personnel, control costs, and maintain the natural vitality of Park ecosystems. Suppression actions will utilize natural and manmade barriers, and may include aggressive suppression activities when warranted.

Aircraft resources may be used for fire management activities, including reconnaissance, detection, ignition, personnel and logistical transportation, and fire control missions, such as retardant/bucket drops. Use of aircraft will be managed to meet all safety, wilderness, and soundscape objectives. Aircraft resources have never been used at the Park for fire activities; no major increase in use is expected under this plan.

Naturally ignited wildland fires will be managed (wildland fire use) to accomplish specific resource management goals and/or objectives within the park. This strategy will

be implemented where human or resource values at risk are minimal. Several relatively small areas of vegetation within the Park are contiguous with similar but larger areas on lands managed by adjacent federal agencies. These contiguous patches along our boundaries have the potential to act as a conduit for fires to exit or enter the Park. The largest patches of vegetation that could sustain a wildland fire are approximately 1000 acres in size, well below the 4500 acre project size allowed under the categorical exclusion listed above. Fires in these locations will be managed with wildland fire use in coordination with the adjacent land managing agency and their fire management strategy.

Prescribed fire and non- fire treatments of fuels will not be used at Capitol Reef. Due to the lack of continuous fuels throughout the Park, these strategies are not needed.

This plan will not adversely affect cultural resources, threatened or endangered species, or ethnographic resources important to tribes. This plan was developed in coordination with the Fishlake National Forest and the Bureau of Land Management Richfield Field Office to ensure compatibility with their FMPs.

I. Introduction

A. Purpose

Wildland fire has long been recognized as a significant natural process operating within and shaping native ecosystems. Virtually all vegetation community types exhibit some evidence of either fire tolerance or intolerance that is vitally important to the community ecology. At the same time, wildland fire has the potential to threaten human lives and property and, in those situations, needs to be controlled. Consequently, there are conflicting needs to manage wildland fire so that threats to humans and property are reduced, while still maintaining and/or restoring fire's function as a natural process.

This Wildland Fire Management Plan (FMP) for Capitol Reef National Park (Park) is written as an operational guide for managing the Park's wildland and managed fires. It defines levels of resource protection needed that will insure firefighter and public safety, protect facilities and resources, and restore and perpetuate natural processes given our current understanding of the complex ecological relationships in natural systems. It is written to comply with a service- wide requirement from Director's Order 18 that directs parks with vegetation capable of sustaining a fire to develop a fire management plan and a fire management program that reflects local ecology. The plan also satisfies the requirements and/or direction provided in policy, legislative authority, Park purpose statements, higher- level planning documents, and natural and cultural resource management objectives. The park has worked Collaboratively with the Fish Lake National Forest and the Richfield Field Office BLM in developing fire management units that are compatible along agency boundaries. Above all, it sets up a system to ensure the safety of staff, visitors, and adjacent landowners.

The Wildland Fire Management Plan will:

1. Provide overall program direction by stating mission, goals, and objectives.
2. Summarize the historical role of fire in the Park and the current wildland fire situation.
3. Designate and describe fire management zones.
4. Describe fire and fuels management tools, prescriptions, and operational procedures.
5. Describe planning procedures.
6. Describe the fire and fuels management organization structure.
7. Provide guidance on the protection of sensitive natural, cultural, and wilderness resources.
8. Describe safety protocols that will be implemented to reduce risk to personnel.

B. Resource Management Objectives

Natural and cultural resource management objectives for Capitol Reef National Park are described in the Park's Resource Management Plan (1994). This Wildland Fire Management Plan will help achieve some of those objectives and protect resources that are vulnerable to fire. Although wildland fires are uncommon in the Park, they are an integral part of any natural community. Research about how fire affects the Park's ecosystem is important to appropriately manage and maintain natural resources.

C. National Environmental Policy Act and National Historical Preservation Act Compliance

On June 5, 2003, two new fire management categorical exclusions (CEs) were published in the *Federal Register* (Vol 68, No. 108, pages 33814- 33824) to assist agencies in completing their environmental documentation. The National Park Service (NPS) has determined that in very limited instances parks doing suppression and fuels reduction activities that meet the published guidelines, can use the CEs to cover fire management plans. Capitol Reef National meets those specified guidelines.

This plan satisfies NEPA compliance requirements because a categorical exclusion has been prepared to evaluate impacts of wildland fire within the Park and to implement an approved course of action as described in the Park's Resource Management Plan. From September 15, 2004 to October 15, 2004, public scoping was done with adjacent federal agencies, local communities, and other interested parties to identify issues, concerns, and potential impacts. Consultation was done with the US Fish and Wildlife Service to ensure the plan did not adversely impact listed species.

This plan also meets National Historical Preservation Act (NHPA) 106 compliance requirements. An Assessment of Effect was submitted to the State Historical Preservation Office and their concurrence on findings was received on February 3, 2005. Consultation was done with Tribal Historical Preservation Offices on potential impacts to culturally significant resources.

D. Fire Management Authorities

Authority for fire management activities within the Park are found in 16 USC Sec. 1 (August 25, 1916), which states that the agency's 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."

This authority was clarified in the National Parks and Recreation Act of 1978:

"Congress declares that...these areas, though distinct in character, are united...into one national park system. The authorization of activities shall be construed and the protection, management, and administration of these areas shall be conducted in light of the high public value and integrity of the National Park System and shall not be exercised in derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress."

Specific guidance for managing fire in National Parks is found in the *NPS Management Policies* 2001 and states:

"Naturally ignited fire is a process that is part of many of the natural systems that are being sustained in parks. Human- ignited fires often cause the unnatural destruction of park natural resources. Wildland fire may contribute to or hinder the achievement of park management objectives. Therefore, park fire management programs will be designed to meet park resource management objectives while ensuring that firefighter and public safety are not compromised.

Each park with vegetation capable of burning will prepare a fire management plan and will address the need for adequate funding and staffing to support its fire management program. The plan will be designed to guide a program that responds to the park's natural and cultural resource objectives; provides for safety considerations for park visitors, employees, neighbors, and developed facilities; and addresses potential impacts to public and private property adjacent to the park.

All wildland fires will be effectively managed through application of the appropriate strategic and tactical management options. These options will be selected after comprehensive consideration of the resource values to be protected, firefighter and public safety, and costs."

Other program direction comes from the National Fire Plan (based on Managing the Impact of Wildfires on Communities and the Environment, A Report to the President in Response to the Wildfires of 2000) and the 10- Year Comprehensive Strategy (A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment).

The authority for FIREPRO funding (Normal Fire Year Programming) and all emergency fire accounts is found in the following authorities:

Section 102 of the General Provisions of the Department of the Interior's annual Appropriations Bill provides the authority under which appropriated monies can be expended or transferred to fund expenditures arising from the

emergency prevention and suppression of wildland fire.

P.L. 101- 121, Department of the Interior and Related Agencies Appropriation Act of 1990, established the funding mechanism for normal year expenditures of funds for fire management purposes.

31 US Code 665(E)(1)(B) provides the authority to exceed appropriations due to wildland fire management activities involving the safety of human life and protection of property.

Authority for interagency agreements is found in "Interagency Agreement between the Bureau of Land Management, Bureau of Indian Affairs, National Park Service, U.S. Fish and Wildlife Service of the United States Department of the Interior and the Forest Service of the United States Department of Agriculture" (1982). Authority for rendering emergency fire or rescue assistance outside the National Park System is the Act of August 8, 1953 (16 USC 1b(1)) and the Departmental Manual (910 DM).

Authorities for procurement and administrative activities necessary to support wildland fire suppression missions are contained in the Interagency Fire Business Management Handbook. Authorities to enter into agreements with other Federal bureaus and agencies; with state, county, and municipal governments; and with private companies, groups, corporations, and individuals are cited in NPS- 20 (Federal Assistance and Interagency Agreements). These include the Reciprocal Fire Protection Act of May 27, 1955 (42 USC 815a; 69Stat 66).

II.

Relationship to Land Management Planning and Fire Policy

A. NPS Fire Policies

NPS fire management policy is expressed in Director's Order- 18 Wildland Fire Management and subsequent memoranda. NPS has taken a lead role in considering fire as a fundamental force in perpetuating natural ecosystems, as stated in *NPS Management Policies* 2001, "Most natural fires are lightning- caused and are recognized as natural phenomena which must be permitted to influence the ecosystem if truly natural systems are to be perpetuated."

The Departmental Manual (DM 910) states the following regarding wildland fires:

> "Wildfires may result in loss of life, have detrimental impacts upon natural resources, and damage to or destruction of man- made developments. However, the use of fire under carefully defined conditions is to be a valuable tool in wildland management. Therefore, all wildland fires within the Department will be classified either as wildfire or as prescribed fires.
>
> Wildfires, whether on lands administered by the Department or adjacent thereto, which threaten life, man- made structures, or are determined to be a threat to the natural resources or the facilities under the Department's jurisdiction, will be considered emergencies and their suppression given priority over normal Departmental programs. Bureaus will give the highest priority to preventing the disaster fire - the situation in which a wildfire causes damage of such magnitude as to impact management objectives and/or socio- economic conditions of an area. However, no wildfire situation, with the possible exception of threat to human survival, requires the exposure of firefighters to life threatening situations.
>
> Within the framework of management objective and plans, overall wildfire damage will be held to the minimum possible giving full consideration to (1) an aggressive fire prevention program; (2) the least expenditure of public funds for effective suppression; (3) the methods of suppression least damaging to resources and the environment; and (4) the integration of cooperative suppression actions by agencies of the Department among themselves or with other qualified suppression organizations.
>
> Prescribed fires...may be used to achieve agency land or resource management objectives as defined in the fire management plans. Prescribed fires will be conducted only when the following conditions are met:
>
> a. Conducted by qualified personnel under written prescriptions.
> b. Monitored to assure they remain within prescription.

Prescribed fires that exceed the limits of an approved prescribed fire plan will be reclassified as a wildfire. Once classified a wildfire, the fire will be suppressed and will not be returned to prescribed fire status."

NPS Policy also directs the Park to work cooperatively with adjacent land and fire management agencies to implement mutually beneficial projects and programs. This plan provides guidance not only for Park staff, but also the Park's neighbors. With clearly stated program goals and objectives, neighboring agencies will be better able to understand Park concerns, coordinate management actions, and provide technical assistance.

Fire plays a variety of roles. It can injure and destroy; it can also contribute to dynamic processes in diverse plant and animal communities. This fire management plan provides detailed guidelines to implement the preceding policies and objectives in an integrated, logical fashion, tailored to the resources of the Park. The paramount considerations for a fire management program are protection of life, both employee and public, protection of facilities and cultural resources, protection of threatened and endangered species, and perpetuation of natural resources and their associated processes.

B. Capitol Reef National Park General Management Plan

The emphasis of the Park's General Management Plan (GMP) is protection and preservation of natural and cultural resources. It established management zones with desired future conditions that help guide other planning documents. The overriding concern is to ensure that fire management activities do not threaten those resources, but instead are used to ensure their continued protection. This FMP will also ensure that natural ecological processes, including fire, continue to shape vegetative patterns and conditions. The provisions included in this FMP and the management considerations that affect operational implementation are consistent with addressing these concerns. This FMP with its identified goals, objectives, and management strategies will help meet the goals, objectives, and desired future conditions of the GMP. This FMP will support the preservation and restoration of the Park's natural and cultural resources through assisting in the identification and evaluation of these resources prior to, during, and after fire activities. This FMP will provide for firefighter, employee, and public safety prior to, during, and after fire management activities or operations.

C. Park Purpose and Significant Resources

1. Enabling Legislation

Capitol Reef National Park was originally established as a National Monument by Presidential Proclamation No. 2246 on August 2, 1937, that stated in part:

"Whereas, certain public lands in the State of Utah, contain narrow canyons displaying evidence of ancient sand dune deposits of unusual scientific value, and have situated thereon various other objects of geological and scientific interest; and
Whereas it appears that it would be in the public interest to reserve such lands as a national monument, to be known as the Capitol Reef National Monument."

The Monument was enlarged by Proclamation No. 3249 of July 2, 1958 and Proclamation No. 3888 of January 20, 1969. The Monument was abolished and Capitol Reef National Park established by an Act of Congress of December 18, 1971. The 1971 legislation was silent regarding the significance of the area and said only that the National Park Service (NPS) "…shall administer, protect, and develop the park, subject to the provision of the Act entitled, 'An Act to Establish a National Park Service.'" This act, sometimes called the NPS Organic Act, was passed in 1916. The 1916 Organic Act requires the NPS to conserve a park's wildlife, natural features, scenery, and cultural attributes and to provide for public enjoyment of these resources. By this direct linkage with the Organic Act, in 1971 Capitol Reef became much more than an object of scientific curiosity; it was recognized as a national treasure of exceptional scenic qualities, diverse natural systems, and rich historic and prehistoric cultural resources.

In order to comply with the 1971 Park enabling legislative language and the 1916 Organic Act, the role of fire must be recognized for its part in the ecosystem.

2. Park Description with Significant Resources and Values

Capitol Reef National Park is located in the Colorado Plateau area in south central Utah (Figure 1). The Park is comprised of 241,904 acres within the counties of Wayne, Garfield, Sevier, and Emery. Park headquarters is located along State highway 24 in Fruita, Utah, 12 miles east of Torrey, 37 miles west of Hanksville, and 220 miles southeast of Salt Lake City. The Park includes both historic and geological features of interest. The primary feature of the Park is the 100- mile long Waterpocket Fold, which is a "monoclinal flexure" in the earth's surface. The Fold's varied topographic features and wildlife attract sightseers, photographers, hikers, equestrians, writers, artists, scientists, and many others seeking to experience the solitude, quiet, and beauty of nature.

The Park is 70 miles long from north to south and from 2 to 14 miles wide west to east. Most of the Park is recommended wilderness, and is remote and inaccessible by road. Annual visitation has averaged about 600,000 since 1999, with the highest monthly visitation occurring in September. Administratively, the Park is divided into three districts – the Fremont River district (headquarters), the Cathedral district (north), and the Waterpocket district (south). The Fremont River District includes the Park's primary automobile access, SR 24, which parallels the Fremont River and bisects the

Park. Most of the existing Park facilities and developments are in this district. The Waterpocket and Cathedral Districts have few visitor facilities and access is by dirt roads.

Much of the ground surface of the Park is barren rock formations or sandy plateau desert. Most of the Park has been or continues to be grazed. There are some plateaus timbered with pinyon- juniper on the western boundary adjacent to the Dixie and Fishlake National Forest. The Park is surrounded predominantly by federal lands, including the Dixie and Fishlake National Forests, Bureau of Land Management, Glen Canyon National Recreation Area, and Grand Staircase- Escalante National Monument.

a. Natural Resources

Climate
Climatic data has been recorded at the headquarters area of the Park since 1938. The weather station is currently located at Park Headquarters at an elevation of 5,500 feet. Average annual precipitation for the 56- year period was 7.72 inches. The mean annual temperature was 53.8 degrees Fahrenheit with an average of 29.3 degrees F for January and 77.9 degrees F for July. Precipitation was fairly equally distributed throughout the year with 20% in the January- March period, 20% in the April- June interval, 38% in the July- September season, and 22% in the October- December period.

The tropical Gulf, tropical Pacific, and polar Pacific air masses influence weather patterns on the Colorado Plateau and, therefore, at Capitol Reef. Westerly winds prevail in the summer, with sporadic heavy rainfall from seasonal thunderstorms that move into the area from the Gulf of Mexico or rotate around high- pressure systems. During this monsoonal period, lightning storms may occur and occasionally ignite wildfires. Winter moisture generally comes from storms moving into the area from the southwest or northwest.

Geology / Topography
Capitol Reef National Park is situated on a slope that drops rapidly in elevation from west to east. Over a distance of 15 miles, 11,000- foot- high mountains west of the Park drop to 4,000- foot- high valleys to the east. The elevation within the Park varies from 8,960 feet near the headwaters of Deep Creek to 3,880 feet at Halls Creek where it exits the south end of the Park. Deep narrow canyons, steep slopes, rounded sandstone domes, and barren soils characterize most of the Park. Some areas in this type of canyon country are inaccessible unless people have specialized climbing equipment or have very advanced route- finding skills.

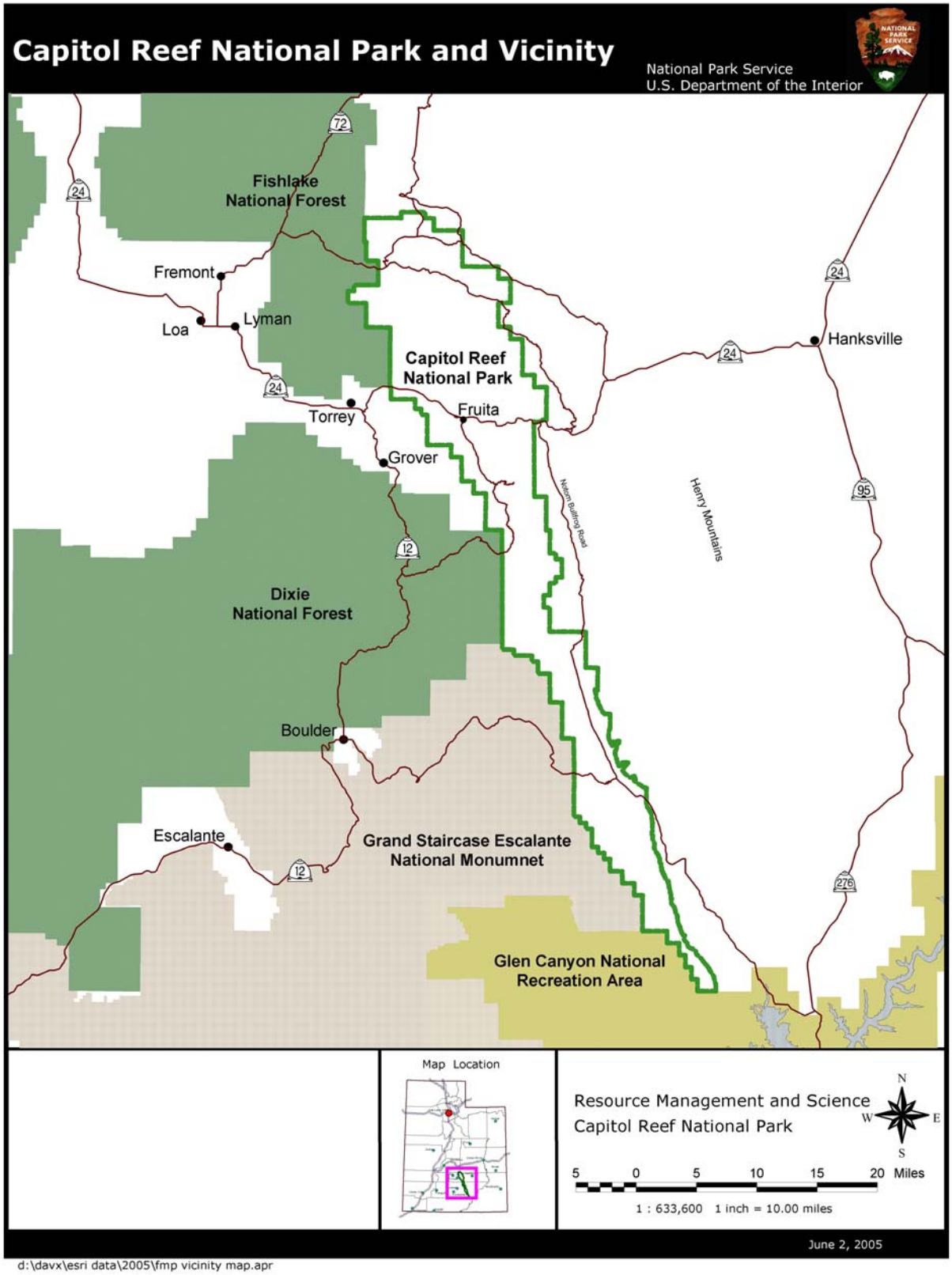
Capitol Reef National Park and Vicinity
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Figure 1.

The primary geological feature encompassed by Capitol Reef National Park is the Waterpocket Fold, which stretches for nearly 100 miles, from Thousand Lake Mountain in the north to the Colorado River in the south. The Fold is a geological uplift, formed around 65 to 80 million years ago. A second feature for which the Park is noted is Cathedral Valley, a flat valley punctuated with shear sandstone spires and fins.

Nearly 10,000 vertical feet of sedimentary rock layers are exposed in and around Capitol Reef. The 17 geologic formations present in the Park were originally deposited about 270 to 65 million years ago under conditions varying from dry sand dunes to marine swamps. More recent volcanic activity formed lava dikes and sills in the northern end of the Park. The dramatic scenery of Capitol Reef is the result of the erosion of these various rock layers during more recent geologic time.

Water

There are four major sources of surface water at Capitol Reef: Fremont River, Oak Creek, Pleasant Creek, and Halls Creek. Other sources of water include Sulphur Creek, Spring Canyon, Polk Creek, Deep Creek, and Middle Desert Wash. Small springs and seeps are scattered throughout the Park usually at the base of cliffs or at contacts points between geologic layers.

Unusual sources of water present in the Park are the waterpockets that give the geologic fold its name. These depressions in the slickrock sandstone can catch and hold water from rain and melting snow and many are permanent water sources important for wildlife. These waterpockets can occur in canyons or can be found on open slickrock. During summer thunderstorms, many of the canyons experience flash flooding and are inaccessible for many hours or days.

Flora

Dominant species of vegetation at Capitol Reef are typical of those found throughout the Colorado Plateau Physiographic Province. There are over 160 plant communities identified, with many being unique or first described in the Park. Due to the significant elevation change across the Fold, communities usually grade from one into another rather than existing as discrete units, except where soil texture or moisture change abruptly. Mapping of these plant communities is currently underway and will be finished in 2005. Preliminary data shows most non- woodland vegetation types present at Capitol Reef (63% of the Park) have grass/shrub cover less of than 25% and will not sustain a wildfire. In woodlands, the majority of communities have an understory of vegetation with less than 25% cover and will also not sustain a wildfire. As part of the vegetation community mapping project, tree/shrub cover was mapped using aerial photography, computer analysis techniques, and GIS to help define what areas are capable of sustaining a fire. Cover was mapped at four values defined as: 1) no canopy = 0- 7%; 2) sparse canopy = 8- 25%; 3) open canopy = 26- 60%; and 4) closed canopy = 61-

100%. Communities capable of sustaining a fire are defined as the open and closed canopy categories of cover.

Four plant communities are of special concern because they are unique to the Park, are vulnerable to disturbance, or are rare throughout their range. These communities are bristlecone pine- cushion plant community, waterpocket community, hanging garden community, and hophornbeam- box elder- oak woodland.

Over 900 species of vascular plants representing 352 genera and 86 families have been documented at Capitol Reef. The reason for this large number of taxa is the variety of habitat types resulting from the different geologic substrates and the broad range of elevation. Many plant species are strongly associated with specific geologic formations.

Fauna

There are over 300 species of mammals, birds, reptiles, amphibians, and fish found in Capitol Reef. Commonly seen mammals include mule deer, yellow- bellied marmots, bighorn sheep, and coyotes. Birds are most numerous in cottonwood and willow vegetation found along streams and perennial water sources. Reptiles are found throughout the Park. The most common lizards are the side- blotched and sagebrush lizards, and the most common snakes are gopher snake and striped whipsnake. Amphibians are not common in Capitol Reef, being found only near streams, springs, and rock pools. Both native and non- native species of fish are found here, in the Fremont River, Pleasant Creek, and Halls Creek.

Species of Management Concern

Capitol Reef has 13 federally listed plant and animal species, one candidate species covered by a conservation agreement, and 21 species considered sensitive by the NPS (Appendix D). This large number is primarily due to the geology and topography of the area. Capitol Reef contains populations of almost half of the 20 federally listed plant species that occur in Utah. Currently, eight plants are listed and one candidate species is covered by a conservation agreement. For several of the 14 National Park Service designated sensitive plant species, there are fewer than 5,000 individual plants known, and these are found primarily in Capitol Reef.

Peregrine falcons, spotted owls, and several bat species occur in the Park because the secluded canyons with numerous crevices offer sites for nesting or roosting.

b. Cultural Resources

Archeological Resources

The earliest well- documented occupation of the Colorado Plateau (and of North America) goes back at least 11,500 years Before Present (B.P.), to small, mobile bands of hunters. Several stratified and surface sites dating to this period and later Paleo- Indian

Period occupations have been documented in southeastern Utah. Although just one incomplete, fluted point from Capitol Reef has been documented, several reportedly have been recovered from locations near the Park's boundaries. Capitol Reef's oldest, securely documented human occupation is represented by Archaic- style projectile point types at the higher elevations and along the rim of the fold, and by Barrier Canyon- style rock art in the Waterpocket and Fremont River Districts.

Up until about A.D.1300, two cultures, the Ancestral Puebloan (also called Anasazi) and the Fremont, appear to have coexisted in southern Utah. Both groups occupied the area around Capitol Reef, although the Ancestral Puebloans may have been here somewhat earlier than the Fremont people. Artifacts diagnostic of the Ancestral Puebloans are predominantly found in the south end of the Park, while those of the Fremont culture are found throughout the rest.

Fremont occupational and petroglyph sites are relatively common at Capitol Reef, which is the type locale for the Fremont culture. Fremont cultural remains documented in the Park include masonry or wattle- and- daub granaries, slab- lined storage cists, pithouse depressions, rockshelter occupations with middens, campsites, and lithic and ceramic scatters, including quarry sites.

The timing of their arrival is uncertain, but the presence of the Numic- speaking Ute and Paiute peoples in the Capitol Reef area is documented by early explorers and settlers. These groups have occupied central Utah since about A.D. 1150 – 1300. Archeological sites attributed to Numic- speaking groups are most often identified by Desert Side-Notched style projectile points. This type of point is particularly common in the Park. A few late prehistoric campsites and lithic scatters attributed to Numic- speaking peoples have been documented in the central area of the Park.

Capitol Reef was used by the Kaiparowits band of the southern Paiute, who ranged from the Paria River to the Waterpocket Fold. Several bands of Ute shared the Capitol Reef region with the southern Paiutes. The Navajos, who are an Athabascan- speaking people thought by archeologists to have arrived from the north at around A.D. 500, also claim traditional use of the Capitol Reef area.

Historic Resources

Members of the Church of Jesus Christ of Latter- day Saints (Mormons) began settling the Capitol Reef area in 1873. The farming community of Fruita, located at the confluence of the Fremont River and Sulphur Creek, and initially called Junction, was founded in 1880. Residents made their living by farming, becoming particularly known for the productivity of their irrigated fruit orchards.

In 1992, the National Park Service conducted a survey and assessment of the historical resources at Capitol Reef to determine whether Fruita qualified as a historical landscape

eligible for listing on the National Register of Historic Places. On the basis of still- used road and irrigation systems, the persistence of original land use, and the existence of numerous historical buildings, Fruita was identified as a historical, vernacular landscape. The district boundaries enclose approximately 250 acres and were formally listed on the National Register in 1997.

Outside of the historic district other historical buildings, structures, and sites exist. Among the most prominent are the Elijah Cutler Behunin cabin, a single- room building of coursed sandstone with a clay- covered roof and a series of dugouts in the Pleasant Creek area built by Hanks's family during the early 1880s. The names of these and other early residents of and travelers through the area are inscribed on "registers" (canyon walls) in Capitol Gorge and other places in the Park.

The remains of numerous ranching- related structures, such as supply storage boxes, loading chutes, drift fences, corrals, and a line cabin, some of which date to the late 19th and early 20th centuries, can still be seen on the landscape. In addition, there are some structures and remains of Uranium exploration and mining camps from the early and mid 1900's. Although these relicts are not part of any formally designated district or historical landscape, several of the old structures have been included in a Multiple Property Nomination for listing on the National Register of Historic Places.

Ethnographic Resources
Very little, if any, published ethnographic information pertaining specifically to the Capitol Reef area is available. This lack of published material requires the Park to rely heavily on oral history interviews and on government- to- government consultation with tribal representatives.

Consultation primarily with Hopi, Zuni, Navajo, Ute, and Paiute groups has established ancestral and/or recent use of the Capitol Reef area by these peoples. The Hopi and other Puebloan groups trace their ancestry to the Fremont and Ancestral Puebloan people who once occupied the area. Ute and Paiute sites have been identified archeologically in the Park, and their association is documented by ethnographic accounts and oral traditions. Historic Navajo use appears to have been more ephemeral; however, ethnographic accounts and oral tradition document at least an historic association with the Park and the surrounding vicinity. The traditional knowledge of the Navajo identifies places of spiritual significance nearby, but to date, such places have not been identified within the Park.

c. Wilderness

Approximately 82% of the Park was recommended for wilderness designation in 1974. By NPS policy, areas recommended for wilderness are managed exactly the same as designated wilderness. NPS Management Policy 6.3.9 directs that "fire management activities conducted in wilderness areas will conform to the basic purposes of wilderness. Wildland fire in wilderness will be suppressed when necessary to protect life safety, significant cultural and natural resource values, or to conform to air quality regulatory requirements. Such wildland fire suppression is deemed the minimum requirement. Actions taken to suppress wildland fire will use the minimum requirement concept and will be conducted in such a way as to protect natural and cultural features and to minimize the lasting impacts of the suppression actions and the fires themselves." NPS Director 's Order 41,Wilderness Preservation and Management (DO- 41, Section 5) further states that "under ideal conditions, natural fire should be considered as a fundamental component of the wilderness environment."

In conformity with direction in NPS Management Policy 6.3.9 and NPS Director 's Order 41, the natural and historic role of fire in the Parks' recommended wilderness has been assessed and documented. In summary, lightning ignited fires have been found to be a natural process and primary driver of natural plant communities throughout the Parks' wilderness. All fire management activity in wilderness will be conducted according to minimum impact suppression guidelines. Delegations of authority to incoming fire management teams will require that minimum impact suppression techniques be followed.

Suppression impacts rehabilitation plans may be implemented under the direction of a resource advisor following significant fire management actions. Emergency rehabilitation in wilderness will seek to restore areas impacted by fire operations in ways that will restore and preserve wilderness character and conditions. Proposals for long- term recovery actions will be submitted using the parks Environmental Compliance Form. These larger scale Burned Area Emergency Rehab (BAER) plans will be developed in coordination with the regional BAER coordinator.

E. General Fire Management Desired Future Conditions

National, agency, and local policies and plans help direct how the fire management program at the Park should be structured. These documents describe priorities, organization, and responsibilities in general terms and leave specifics to the local planning level based on conditions and available resources. The Wildland Fire Management Plan for Capitol Reef stems from this guidance, which generated the following fire- related desired future conditions:

SAFETY

1. Firefighter and public safety are the highest priority in fire management.
2. When a fire is reported, the first consideration when planning control activities is

firefighter, visitor, and adjacent landowner safety.
3. Every fire management activity complies with established fire- safe management practices.
4. Unwanted fires are prevented and suppressed using Appropriate Management Response strategies under the decision process considering sound risk management.

CULTURAL RESOURCES

1. The historic scene and cultural resources are, as closely as practical, in keeping with their original character and appearance.
2. The fire management program protects and preserves cultural resources.
3. During natural or managed ignitions, fire management operations are specifically designed to protect and/or enhance cultural resource integrity and scientific research potential.
4. Fire management staff collaborates with appropriate resource management staff to seek information and technical expertise to identify cultural resource preservation and protection needs.
5. Fire suppression activities do not negatively impact cultural resources.

VEGETATION MANAGEMENT

1. Ecologic principles are applied during fire management operations to ensure that natural resources are maintained and not impaired.
2. Ecologic processes, including fire, erosion, shape of vegetative patterns, and expected microclimatic conditions, continue to be the primary factors affecting the natural environment.
3. Vegetation succession reflects the natural range of variability under conditions that would occur in normal fire regimes.
4. Fire management staff collaborates with appropriate resource management staff to seek information and technical expertise to identify natural resource preservation and protection needs.
5. Fire activities do not contribute to or promote the spread of invasive weeds.
6. Fire is used as a naturally occurring tool to manipulate exotic plant communities and to protect or enhance native vegetation.

WILDLIFE

1. Native wildlife habitat is maintained or enhanced through fire management practices that are consistent with natural processes.
2. Fire is used as a tool to prevent unnatural catastrophic fires that may adversely affect wildlife and their habitat.

AIR QUALITY

1. Managed fires replicate ecological conditions and/or reduce dangerous fuel loading in a manner that minimizes smoke production's effects to local visibility.
2. Fire management activities are consistent with the Utah Smoke Management Plan and State Implementation Plan.

VISITOR EXPERIENCE

1. A safe visitor experience occurs during and after fire management activities.
2. Visitors have an enjoyable and meaningful experience and the opportunity to understand the ecological, cultural, and aesthetic values of fire.
3. Fire suppression activities do not negatively impact wilderness resources and values.

PARK NEIGHBORS AND PARTNERS

1. Local governments, Park neighbors, interagency cooperators, and the public work collaboratively with the Park to implement fire management program objectives and to foster a spirit of cooperation.
2. Park and other agency fire personnel work together to accomplish each agency's fire management goals.

F. Cultural and Natural Resource Fire Management Objectives

Due to the infrequent occurrence of fire on the Park, the 1994 Capitol Reef National Park Resource Management Plan (RMP) does not have cultural and natural resource objectives that specifically discuss fire management. The RMP does have overall objectives that provide guidance concerning wildland fire management and these are:

1. Identify, evaluate, monitor, and resolve the resource management issues and threats that face the Park.

2. Inventory all significant resources and continuously assess their condition. Develop research programs to investigate inadequately understood processes and trends.

3. Provide long- term guidance to Park management on how to manage and protect resources.

4. Enhance public awareness of the resource management problems and issues. Provide a mechanism for public participation in the identification and resolution of these issues.

5. Provide an organized framework to justify the request and expenditure of funds to resolve significant resource management issues.

6. Define the resource management responsibilities within the Park to ensure that associated programs can be effectively implemented.

III. Wildland Fire Management Strategies

A. General Management Considerations

The primary goals of the wildland fire management program at Capitol Reef National Park are to protect human health and safety, protect property, enhance community protection, diminish risk and consequence of severe wildland fires, increase the health of the ecosystem, and protect cultural resources.

All suppression actions taken on wildland fire will be handled in a prompt, safe, and cost- effective manner to produce a fast, efficient action with minimum damage to resources. All ignitions will be managed using the appropriate management response. The appropriate management response for human ignitions will be some kind of suppression response. Lightning caused ignitions will be suppressed when there are threats to humans, property, or resources, but may be managed for Wildland Fire Use objectives when appropriate conditions exist.

Because the Park is surrounded primarily by federal lands, Capitol Reef National Park staff recognizes that collaboration with other agencies is essential to effectively and efficiently manage wildland fire. The park will stay informed on the written strategies in adjacent agencies Fire Management Plans so that the area agencies can collectively manage fire more effectively on a landscape scale. The NPS is a signatory of the Annual Operating Plan for Fire Management among the U.S. Forest Service, Bureau of Land Management, Bureau of Indian Affairs, and the State of Utah for fire management activities in central Utah. This plan documents the agencies' agreement and commitment to fire protection assistance and cooperation.

Capitol Reef National Park is also a signatory in an intra- Service agreement between Zion National Park, Bryce Canyon National Park, Cedar Breaks National Monument, Glen Canyon National Recreation Area, Pipe Spring National Historic Site, Golden Spike National Historic Site, and Timpanogos Cave National Monument (Appendix ?). In the agreement Zion assumes a leadership role for fire- related issues. The above partners, interested and affected groups and agencies, and the public have been involved in the collaborative process used to develop this FMP.

To implement NPS Management Policies governing fire management, the Park will administer its wildland fire program in a manner that will:

1. Achieve maximum overall benefit and minimize damage of wildland fire use within the framework of land use objectives and resource management plans, while giving primary consideration to firefighter and public safety.

2. Educate employees and the public about the scope and effect of wildland fire management, including fuels management, resource protection, prevention,

hazard/risk assessment, mitigation and rehabilitation, and fire's role in ecosystem management.

3. Minimize degradation of natural and cultural resources that could be lost in and/or damaged by impacts of wildland fires and/or fire management activities.

4. Maintain the highest standards of professional and technical expertise in advance fire planning and preparation, in training fire personnel, and in safely implementing an effective wildland fire management program.

5. Integrate fire management with all other aspects of Park management.

6. Manage wildland fire incidents in accordance with accepted interagency standards, using appropriate management strategies and tactics and maximizing efficiencies gained through interagency coordination and cooperation. Cost containment will be considered in all proposed fire management actions.

7. Scientifically manage wildland fire using best available technology as an essential ecological process to restore, preserve, or maintain ecosystems and using resource information gained through inventory and monitoring to evaluate and improve the program.

8. Protect life and property while accomplishing resource management objectives, such as restoration of the natural role of fire in fire- dependent ecosystems.

9. Effectively integrate the preservation of wilderness including the application of "minimum requirement" management techniques into fire activities that could impact these resources and values.

10. Develop and maintain cooperative agreements and working relationships with neighboring wildland fire entities to facilitate coordinated fire management activities.

This overall framework for fire management will promote a fire prevention program aimed at safety of employees and the public, providing adequate suppression response capability to meet expected wildfire complexity, and restoring fire- dependent ecosystems.

B. Wildland Fire Management Goals

The following Capitol Reef National Park wildland fire management goals, objectives, and strategies are derived from previously described Park desired future conditions, resource management objectives, and general management considerations. These goals will contribute to NPS and Intermountain Region accomplishments under the National Fire Plan. They reflect the core principles and goals of the Comprehensive Strategy and the Cohesive Strategy because they implement the fire related objectives of the Park's land and resource management plans as described previously.

Goal 1: Firefighter, employee, and public safety are the highest priority of every fire management activity.

Objective: Upon completion of all wildland fire operations, no deaths, or lost time injuries will occur to the public, Park employees, and firefighters.

Strategies:

- All safety standards and guidelines identified in the Interagency Standards for Fire and Aviation Operations and other Northern Rockies Coordinating Group (NRCG) policy and guidelines will be followed.
- All safety protocols for the aviation program will be contained in the RM- 18 and DO- 60; the Interagency Helicopter Operations Guide (IHOG) is now fully used for NPS helicopter operations.
- When a fire is reported, fire management officials will first evaluate the potential safety hazards involved in accessing the fire, fire spread, and other fire control activities.
- All personnel involved in fire management operations will receive a safety briefing describing known hazards and mitigating actions, current fire season conditions, and current and predicted fire weather and behavior.
- Only qualified individuals that have training that promotes the safe and skillful application of fire management tactics and techniques will carry out fire management operations. All fire personnel assigned to fireline operations must meet National Wildland Coordinating Group (NWCG) 310- 1 qualifications. This will include completing a minimum of 32 hours of basic wildland fire training and, then annually, a minimum of 8 hours of fire fighter refresher along with passing the fitness test (packtest) and safety training.
- The Job Hazard Analysis (JHA) will be used for projects that present potential hazardous activities and for jobs that require the employee to use out- of- the-ordinary PPE; refer to RM- 18 for JHA process and format.
- Park neighbors, visitors, and cooperating agencies will be notified of all planned and unplanned fire management activities that have the potential to impact them.
- The Superintendent will close portions of the Park to the public when fire activity poses a threat to human safety.
- The Park fire organization will be proactive, coordinate with local cooperators, and effectively respond to changing fire conditions.

- All wildland fire incidents will be managed in the most cost effective manner possible commensurate with values at risk.

Goal 2: Suppress fires at the smallest size possible if they threaten life, safety, habitable structures, historic buildings and features, and high use areas.

Objective: Contain 99% of all unwanted wildland fires within the first burning period using Minimum Impact Suppression Tactics to protect values at risk.

Strategies:
- Meet annually with local cooperators who provide initial attack to ensure that they know what minimum impact suppression tactics should be employed at Capitol Reef.
- Ensure that fire operations personnel are briefed about Park resources and potential damage from fire and suppression actions.
- Prioritize suppression actions on fires or portions of fires that threaten to damage public or private property.
- Assure safe, rapid response to wildland fires with trained and qualified personnel and equipment.
- Complete annual and regular preparedness reviews to assure program readiness.
- Ensure that Park staff responsible for fire operations understands wildland fire standards, guidelines, and policy.
- Maintain an effective fire prevention program that eliminates human- caused fires and minimizes threats to life and property.
- Manage all wildland fire incidents in the most cost effective manner possible commensurate with values at risk.
- Investigate human- caused fires and use appropriate enforcement, prevention actions, and public education to minimize future occurrences.
- Monitor, evaluate, and report on the effects of fire on Park resources.

Goal 3: Manage fires under Wildland Fire Use to restore pre- settlement vegetation conditions and for other identified natural or cultural resource management objectives as much as possible.

Objective: All (100%) of wildland fire use fires will be managed to maintain natural landscapes, reduce excessive natural fuel loading where appropriate, control exotic plant species, and improve wildlife habitat.

Strategies:
- Manage natural ignitions in the Park to allow the fire to play its natural role where it is safe to do so and when established conditions or location criteria are met.

- Quantify fire behavior and resultant fire effects through monitoring, evaluation, and analysis to better understand fire's role in shaping and maintaining ecological communities.
- Ensure wildland fire suppression operations employ Minimum Impact Suppression Tactics (Appendix G).
- Ensure fire operations personnel are briefed on Park resources and potential damage from fire and suppression actions.
- Ensure knowledgeable Park staff members are assigned as resource advisor(s) to wildland fires within the Park.
- Maintain cooperative fire agreements with neighboring agencies to aid in the completion of annual managed fire goals.
- Train Park staff to help understand, plan, and participate in managed fire operations.
- Integrate Park fire strategies and benefits into the public interpretive program.

Goal 4: Protect developed areas and cultural and historic sites from wildland fire.

Objective: Suppress 100% of wildland fires near administrative structures, cultural sites, and historic properties.

Strategies:
- Suppress all wildland fires within and adjacent to developed areas to reduce fire potential, intensity, and severity.
- Suppress all wildland fires within the Fruita Rural Historic District and within ½ mile of National Register eligible historic properties that are vulnerable to wildland fire.
- During archeological and historical resource monitoring, document potential for damage to those resources from wildland fire to aid in refinement of fire management to meet specific objectives.

Goal 5: Manage wildland use fires in concert with federal, state, and local air quality regulations.

Objective: Ensure air quality thresholds for National Ambient Air Quality Standards are not exceeded in airsheds due to managed fire activities.

Strategies:
- Impacts to air quality will be considered as a part of the fire go/no go decision in all wildland fire use plans and implementation of associated fire projects.
- Air quality impacts will be addressed as a part of the alternative development and selection in the Wildland Fire Implementation Plan (WFIP).

- Smoke impact mitigation measures will be developed for each occurrence and implemented for all managed fire actions to minimize smoke production and effects to local visibility.
- Fire management activities will be consistent with the Utah Smoke Management Plan and State Implementation Plan.

Goal 6: Facilitate reciprocal fire management activities through the development and maintenance of cooperative agreements and working relationships with cooperator fire management entities.

Objective: Annually review and modify as necessary 100% of inter- and intra- agency agreements with the agencies listed below and participate in annual meetings between cooperators.

Strategies:
- Ensure cooperative agreements are current and operational.
- Continue participation in the Annual Operating Plan between the United States Forest Service (Fishlake National Forest, Manti- La Sal National Forest); Bureau of Land Management (Richfield Field Office); United States Fish and Wildlife Service (Fish Springs National Wildlife Refuge); Bureau of Indian Affairs (Southern Paiute Field Office); and State of Utah, Division of Forestry Fire and State Lands (represents Sevier, Millard, Sanpete, Juab, Wayne, Piute, and Beaver Counties).
- Continue participation in the intra- park cooperative agreement between Zion National Park, Bryce Canyon National Park, Capitol Reef National Park, Cedar Breaks National Monument, Glen Canyon National Recreation Area, Pipe Spring National Historic Site, Golden Spike National Historic Site, and Timpanogos Cave National Monument.
- Coordinate agreements and conduct routine meetings with the following entities:
    1. Richfield Interagency Fire Center.
    2. Volunteer Fire Departments of Torrey and Teasdale.

Goal 7: Foster visitor and employee awareness about the fire management program, including the effects of wildland fire, the need to prevent human- caused wildland fires, and the benefits of natural fire.

Objective: During the fire season, 95% of Park visitors will have access to information about the fire management program, including current fire conditions and the need to prevent human- caused fires.

Strategies:
- Have written information about the wildland fire management program available for visitors in the visitor center.

- Make fire- related announcements or give fire- related interpretive programs as necessary.
- Make a concerted effort to contact Park visitors about conditions if a wildland fire is occurring within the Park.
- Provide fire- related information during All Employee and Management Team meetings, as appropriate.

C. Wildland Fire Management Options

This section addresses the scope of wildland fire management program options that could be implemented within Capitol Reef National Park and that will be further developed within each Fire Management Unit.

1. Wildland Fire Suppression

All wildland fire suppression activities would provide for firefighter and public safety as the highest consideration. Suppression activities would strive to minimize the potential damage to natural and cultural resources, would take into consideration economic expenditures, firefighting resources, and other fire priorities (local, regional, national preparedness).

All wildland fires that require suppression actions will be controlled using the appropriate management response strategy. The appropriate management response to specific wildland fires will be determined through evaluation of public and firefighter safety, fire behavior, values at risk, potential suppression damage, cost, and the availability of fire management resources. The appropriate management response will be used to curtail fire spread and eliminate identified fire threats.

The concept of appropriate management response is integral to fire management policy. Management responses are programmed to accept resource management needs and constraints, reflect a commitment to safety, cost effectiveness, and accomplish desired objectives while maintaining the versatility to varying fire intensities as conditions change. The appropriate management response would be used to curtail the spread of fire and eliminate or reduce all fire threats to identified resources. Appropriate management responses comprise a sliding scale within a wide range of firefighting responses that could include confine and contain or aggressive suppression actions.

A confine/contain action could be used to create a fuel break around the fire allowing the fire to burn to the fuel break. The break could include natural barriers or could be made up of manually and/or mechanically constructed lines. The park may choose to avoid active fire fighting actions in areas where natural fuel breaks exist. Using natural fuel breaks could increase fire size, but would provide for fire fighter safety and reduce disturbances on the land caused by fire line construction. Costs for suppression will also be reduced. This strategy could allow managers to focus firefighting activities on an

area of the fire where life, property, and natural or cultural resources are threatened, while allowing other areas to burn out against natural barriers. More aggressive suppression strategies could be used when critical resources are threatened.

Aircraft resources could be used for fire management activities including: reconnaissance, detection, personnel and logistical transportation, and fire control missions like retardant/bucket drops. The purpose of this action would be to provide transport of personnel and equipment, as well as, to facilitate implementation of fire tactical operations. Use of aircraft would be managed to meet all safety, wilderness, and soundscape objectives.

During suppression operations, holding actions could be implemented to prevent the fire from crossing containment boundaries whether natural or human- made. Holding actions could include the construction of fire lines, mechanical or hand reduction of excessive fuel concentrations, reduction of vertical fuel continuity, burning out, and creating fuel breaks or utilizing natural barriers. These operations or actions could be implemented around critical or sensitive sites or resources. Wildland fires will follow the Wildland Fire Situation Analysis (WFSA) process in managing suppression actions that last beyond one burning period or are obviously escaping initial attack.

2. Prescribed Fire

Prescribed fires are planned fires designed to allow for specified fire behavior to meet resource objectives, ignited by park managers within a predetermined area under specific environmental factors that are called a prescription. Because of the lack of vegetation to support fires and the lack of fire evidence in vegetation communities, prescribed fire is not being proposed as an option for fire management at the Park and will not be addressed in this plan.

3. Wildland Fire Use

Wildland Fire Use is defined as the application of the appropriate management response to naturally ignited wildland fires to accomplish specific resource management objectives in predefined areas outlined in fire management plans. In areas where vegetation density is capable of carrying fire, the decision of how to manage the fire will be outlined in the Wildland Fire Implementation Plan (WFIP). Wildland fire use fires will follow the WFIP created for each fire. Larger WFU fires will require a stage III WFIP that describes maximum manageable areas, available resources, monitoring plans, identified threatened resources, along with establishing trigger points for implementing control actions if needed.

About 10% of the Park has the potential to carry fire in dense vegetation contiguous with high fuel areas on adjacent lands. Because of the lack of recorded fires or evidence of fires in these areas, we expect that natural ignitions in these areas will be allowed to burn to allow natural fire to play out its role in the ecosystem and to prevent the potential

build up of fuels over time. Such burns will be allowed in cooperation with the adjacent land management agencies and only when fire conditions are suitable. If conditions indicate a greater likelihood of a catastrophic fire, suppression will be used to prevent resource damage and fire spread to neighboring communities.

4. Non- Fire Applications

Non- fire application is the use of tools, equipment, or herbicide to reduce the build up of hazardous accumulations of fuels. Mechanical equipment and manual efforts could be used as stand- alone methods to reduce fuels or create defensible space, to allow for prescribed fire, or to construct a fire line during a wildland fire. Because of the lack of vegetation to support fires and the lack of fire evidence in vegetation communities, such projects are not being proposed as an option for fire management at the Park and will not be addressed in this plan. If necessary, areas around cultural sites may be considered for mechanical reduction, but none is planned at this time. If any non- fire projects are planned in the future, separate NEPA and consultation will be initiated.

D. Wildland Fire Management Situation

1. Historic Weather Analysis

At the present time, Capitol Reef National Park lacks a fire weather station. The closest National Fire Danger Rating System station is the Signal Peak (421904) station in Sevier County. Some climatic data is available from a National Weather Service station that has been located in the Fruita Valley since 1938. Because the Park is 100 miles long, this station gives a general indication of area weather trends but does not adequately represent locations outside the Fruita Valley.

The following generally describes the weather in the Capitol Reef area. There is typically little rainfall in late spring, mid- May through June. Thunderstorm season brings the greatest precipitation period of the year, which normally starts in July and continues through mid- September. Flash flooding in the deep narrow canyons of the Park is a major safety concern during this time. Fall precipitation is usually caused by slow moving frontal systems that drop rains at lower elevations and snow higher up. The winter precipitation period is usually from December to April and consists primarily of snow.

Table 1. Monthly average precipitation data at Fruita (1938- 2001)

January	.50	July	.89	Annual	7.72
February	.40	August	1.18	High annual	13.13
March	.61	September	.83	Low annual	3.72
April	.53	October	.85	High daily	2.15
May	.61	November	.55		
June	.44	December	.33		

Winds that could affect fires are primarily influenced by the high elevation country on the west side of the Park, running roughly north and south in orientation. A predictable morning down slope wind from the west and an afternoon upslope wind from the east are typical scenarios for warm season days. Summer thunderstorms build up around the high mountains and individual storm cells move down slope across the Park. In the vicinity of these storms, winds are erratic and unpredictable. The rapid drop in elevation across the Park accentuates winds caused by passing weather fronts. During cool season days, winds are usually steady from the west although local topographic irregularities can influence wind direction.

2. Fire Season and History

A normal fire season is the annual period within which 90% of fires occur. Records show that Capitol Reef's fire season is from early June through mid- September, peaking in late summer when thunderstorms are common. The other 10% of fires occur at the ends of this period, extending the total season from mid- May to the first of October. Lightning is the most common ignition source (70%).

Because of the lack of extensive forests, there is little evidence of past fires found in Capitol Reef. Resource management crews doing rare plant inventories, vegetation community and geology mapping, and resource monitoring have covered a major portion of the Park and have not discovered any indication of large wildfires. There is occasional evidence of individual tree fires in the pinyon- juniper woodlands on benches along the Park's western boundary, but most trees in these small patches of dense woodlands are many hundreds of years old, indicating that frequent or large fire occurrence is not a critical part of the forest's ecology. The remainder of the Park is primarily barren rock, sand, or clay with some areas of grassland and riparian vegetation, where evidence of fires is difficult to find.

Humans have occupied the Capitol Reef area for over 7,500 years, based on the existing archaeological record. There is evidence that prehistoric human inhabitants built homes, hunted game, and gathered native vegetation throughout the area. There is speculation that they used fire to manipulate vegetation during these activities, although no definitive evidence exists. This subject continues to be researched and debated. Vegetation in this area prior to European settlement is probably very much like what is seen today, with a few exceptions.

The Fruita Valley has obviously been changed by human settlement and establishment of the orchards, but will continue to be managed in its current condition as a historical resource. Other settlements, which have been abandoned, have also changed the vegetation and these include a homestead with a large area of cultivation and mines with associated camps and roads. These areas may be as large as several hundred acres and were changed from sparsely vegetated grasslands or woodlands to unvegetated or

sparsely vegetated non- native communities. Range management projects, which chained, disked, and plowed several square miles of the Park in various locations, have changed the vegetation from open canopy woodlands to sparsely vegetated non- native communities. A soil stabilization project in the 1950's covered five square miles of the Park with over 350 small soil retention ponds. These ponds have modified the local hydrology, created habitat for non- native plants, and changed sparsely vegetated clay soils into pockets of non- native vegetation. Livestock grazing has occurred in the area since the late 1800's and continues in some portions of the Park. This activity has reduced cover of grasses to some degree, especially in areas where livestock congregate, but these areas were sparsely vegetated even before grazing. Although these man- made disturbances have altered the vegetation communities, they have not drastically increased the occurrence of fires because all but Fruita are still sparsely vegetated and will not carry a fire.

Historical records of wildfires at the Park indicate that fire occurs very infrequently. Local residents do not remember ever seeing or hearing about any large fires occurring in the Capitol Reef vicinity since the area was settled in the early 1900s. From 1977 through 2005, a total of 12 fires were reported in the Park. The largest fire, occurring in the riparian zone along the Fremont River, reached .5 acres in size and dumping wood stove ash caused another smaller grass fire in the residential area. All other fires were lightning caused, burning a single snag or tree. During this period, other unreported "snag fires" undoubtedly occurred but simply burnt out on their own without being seen.

3. Fuel Characteristics and Potential Fire Behavior

About 33% of the Park is classified for fuel characteristics as barren, i.e. less than two percent cover of any vegetation. These areas are composed of expanses of open slickrock or clay badlands with no potential to support a wildfire. When ponderosa pine, pinyon pine, and juniper communities occur on sandstone, there are usually large distances (tens to hundreds of meters) between individual trees. Despite these facts, the majority of fires recorded in the Park have occurred in areas such as these that are considered barren and have been single snags with no chance of spreading to other vegetation. The isolated trees on exposed ridge tops of the Waterpocket Fold attract lightning and result in these single tree fires.

In areas that do have vegetation, four different fuel types are found in the Park. Associated National Forest Fire Laboratory (NFFL) and National Fire Danger Rating System (NFDRS) models are used for fire behavior predictions. The following information is provided for fuel types and models currently being used.

a. <u>Grassland and Sparse Shrubland (NFFL MODEL #1, NFDRS MODEL L)</u>

Approximately 54% of the Park is composed of desert grassland or sparse shrubland fuel types. Although native grasses predominate, shadscale is the common shrub of

these communities with rabbitbrush, greasewood, snakeweed, buckwheat, and blackbrush also found here. Vegetation in this community remains green for a short time during the first half of the fire season but, later on as it cures, it becomes more flammable. Cover values for grasses can be as high as 35% but typically are less than 20%. Vegetation distribution in this community is always patchy and shrub cover is less usually less than 10%. Some pinyon pine or juniper trees may be present in some areas but at cover values less than 25%.

Fires in grasslands have the potential to spread rapidly if fuel is continuous. Natural barriers and vegetation patchiness at Capitol Reef would prevent a large fire run in grasslands from occurring anywhere in the Park. Fire intensity and duration in such areas is expected to be low, due to low fuel loading and poor continuity of vegetation. No fires in this vegetation type are known to have ever occurred in the Park and, therefore, none are expected to occur in the future.

b. Brushy Woodland (NFFL MODEL #5 and #6, NFDRS MODEL B and F)

Brushy woodlands in Capitol Reef are upland communities dominated primarily by pinyon pine and juniper with some areas of mountain mahogany in upper Deep Creek. These vegetation communities comprise less than 10% of the Park and occur primarily along the western boundary. The pinyon- juniper plant community occurs in various tree densities throughout the Park. The community varies from small linear stands on north- facing slopes to discontinuous forests on higher elevation benches to scattered trees interspersed with other plant species. Dense pinyon- juniper stands on the Park generally consist of old age stands with a very sparse understory of shrubs and herbaceous plants.

The mountain mahogany community occurs in dense, closed- canopy patches on steep, rocky slopes in upper Deep Creek. These areas contain large trees that are many hundreds of years old and are up to 25 feet tall with a sparsely vegetated understory. Beneath the canopy is an open zone from four to six feet in height with few shrubs or grasses. An occasional pinyon or ponderosa pine can be found in these stands but most are pure mountain mahogany. In a situation similar to that occurring at Capitol Reef, Schultz (1987) found large curlleaf mountain- mahogany up to 1,350 years old in western Nevada, indicating that severe fire has been infrequent in these communities. Schultz (1987) reported fire scars on large, old curlleaf mountain mahogany in central Nevada that suggested understory fuels were insufficient to carry severe fire. Some of these mountain mahogany communities avoid fire by growing on extremely rocky sites, a situation also found at Capitol Reef.

Fire spread in all types of woodlands is dependent on fuel moisture, the distance between tree canopies, and the continuity of the understory vegetation and leaf litter. At Capitol Reef even when pinyon/juniper or mountain mahogany cover classes exceed 25%, grass and shrub cover values are usually less than 10%. Both horizontal and

vertical continuity in vegetation is very low in these communities except when tree cover is greater than 60%, which results in a more continuous canopy. Less than one percent of the Park has cover greater than 60%. Because there is little understory vegetation or litter, a fire would have to spread exclusively through the tree crown. Even with a canopy greater than 60%, high winds and dry fuels would be required before such a fire could spread.

As stated earlier, recorded fires at Capitol Reef are lightning caused single snag fires in barren communities. There is past evidence of similar small fires in denser woodland communities also. In this area, storms that result in lightning are usually very wet, which saturates fuels and prevents fires from starting or spreading. Individual trees may torch and send showers of embers upward and outward but the lack of continuous fuels usually prevents other vegetation from becoming involved. What remains is a single burning tree and, on rare occasions, a smoldering ground fire that consumes mostly ground litter. These fires could possibly smolder for days but would only move very short distances. Fires of this type generally have very short flame lengths and low intensities. This type of fire would burn out within a few hours or a few days mainly due to the lack of continuous fuels. Although fires in these communities are very rare, this fire behavior is typical of that expected under natural conditions at Capitol Reef.

c. Conifer Forest

Conifer forest communities (that don't fit any fuel models) make up less than two percent of the Park and are found in isolated mixed conifer stands or in small groups of single species trees rather than in the typical forest environment. Single species groups of conifers at lower elevations are composed of sparse ponderosa pine in sandy drainages surrounded by slickrock. At higher elevations, small patches of dense moist aspen, sparse bristlecone pine, and ponderosa pine / mazanita occur. Because these communities are cool, moist, and sparsely vegetated, they would not typically carry a fire other than a single snag with possible ground fire around its base.

Mixed conifer stands are typically very small in size (<20 acres) and are found on moist, north- facing canyon slopes shaded by tall cliffs. They are composed primary of Douglas fir and ponderosa pine. These areas are moderately vegetated with understory shrubs and grasses and have high soil moisture from springs or seeps. Due to the fuel composition, potential exists under perfect conditions for a fire to occur in these stands but high fuel moisture and cool, moist microhabitat conditions associated with these areas greatly reduce the likelihood of fire. No fires have been recorded in the Park in conifer forest communities and there is no evidence of past fires. Because of the lack of dense vegetation, high fuel moisture, and lack of fire evidence, wildfires are not expected in conifer forest communities in the future.

d. Riparian Woodland (NFFL MODEL #8, NFDRS MODEL H)

These easily recognized areas are riparian deciduous associations of cottonwood, box

elder, birch, willow, and maple and comprise less than one percent of the Park. Conifers are either entirely absent or in the minority. These areas frequently act as firebreaks, although in dry conditions they can burn severely. Many species found here resprout after fire or other disturbance. The ecology of these communities is driven by predictable disturbances like spring floods and resultant changes in stream course, water tables, soil depth, and vegetation composition following floods. Historically, fire is an infrequent event in these areas.

Fires in and near the historic district could potentially cause some damage to historic resources, but since this is in an irrigated riparian area, fire behavior is likely to be moderated significantly compared to areas in a natural landscape. Fire intensity is expected to be low in these areas, due to patchiness of the vegetation and high fuel moisture. Such a fire would spread slowly in grasses and in litter under trees but could become more intense if a dense pocket of salt cedar trees ignites. There have been two human- caused fires in the Fruita area since the 1970's but, because fire spread is slow, they were easily contained at a half acre or less.

4. Fire Regime Alteration and Condition Class

To understand the connection of documented wildland fires to that of fire history we need to understand fire regimes. Fire regimes describe historical fire conditions under which vegetation communities have naturally evolved and been maintained (Hardy et. al. 1998). They do not apply to managed areas such as orchards, pastures, campgrounds, administrative sites, or housing developments where fires have been and will continue to be suppressed to protect operational and historic resources. Fire regimes describe the frequency and severity of fire events that would occur in different vegetation communities under natural conditions. Fire frequency is the average number of years between fires. Severity is the effect of the fire on the dominant overstory vegetation, which can be forest, shrub, or herbaceous vegetation.

Historical natural fire regime data are not exact reconstructions of historical conditions, being defined as conditions existing before extensive Euro- American settlement (pre-1900), but rather reflect typical fire frequencies and effects that evolved in the absence of fire suppression. This document is using the five regimes as defined by Schmidt, et al. (2002) including fire frequency and severity. Schmidt, et al. (2002) used a methodology that integrated site characteristics, habitat types, topographic attributes, and vegetation types to map fire regimes. Fire frequency and severity measures were used to determine the departure from historical conditions, which may have been caused by one or more activities such as: fire exclusion, timber harvesting, livestock grazing, introduction and establishment of exotic plant species, introduced insects and disease, or other management activities. Table 2, below, describes the classification, fire frequency (fire return interval), severity, and class assumptions for modeling or determining the historical fire regime class.

Table 2: Historical Fire Regime Class Designation

Historical Fire Regime Class	Fire Frequency (Fire Return Interval)	Severity	Modeling Assumptions
I	0 – 35 + years, frequent	Surface	Open forest or savannah structures maintained by frequent fire; also includes frequent mixed severity fires that create mosaic of different age post- fire open forest, early to mid- seral forest structural stages, and shrub or herb dominated patches (generally <100 acres).
II	0 – 35 + years, frequent	Replacement	Shrub or grasslands maintained or cycled by frequent fire; fires kill non- sprouting shrubs such as sagebrush which typically regenerate and become dominant within 10 – 15 years; fires remove tops of sprouting shrubs such as mesquite or chaparral, which typically re- sprout and dominate within 5 years; fires typically kill most tree regeneration such as juniper, pinyon pine, ponderosa pine, or Douglas- fir.
III	35 – 100+ years, infrequent	Mixed	Mosaic of different age post- fire open forest, early to mid- seral forest structural stages, and shrub or herb dominated patches (generally < 100 acres) maintained or cycled by infrequent fire.
IV	35 – 100+ years, less infrequent	Replacement	Large patches (generally > 100 acres) of similar age post- fire shrub or herb dominated structures, or early to mid- seral forest cycled by infrequent fire.
V	> 100 – 200 years, rare	Replacement	Large patches (generally > 100 acres) of similar age post- fire shrub or herb dominated structures, or early to mid- to late seral forest cycled by infrequent fire.

Current condition class also needs to be understood in order to determine how these historical fire regimes have been altered though past management practices to arrive at their present condition. Current condition class is a qualitative measure describing the degree of departure from historical fire regimes, possibly resulting in alterations of key ecosystem components such as species composition, structural stage, stand age, canopy closure, and fuel loadings. Comparing fire history data with fire regime information helps determine the degree of departure from the expected fire regime and therefore, the current condition class. The system used to categorize this information includes three current condition classes: 1 – Fire regimes are within an historical range and the risk of losing key ecosystem components is low; 2 – Fire regimes have been moderately altered from their historical range and the risk of losing key ecosystem components is moderate; and 3 – Fire regimes have been significantly altered from their historical range and the risk of losing key ecosystem components is high. Table 3 lists the condition class rating, gives a brief description of the fire regime characteristics, and provides examples of management options that may be used in maintaining or restoring natural

landscapes.

Table 3: Fire Regime Current Condition Class Descriptions.

Condition class	Departure from fire regime and associated effects	Sample management options
Condition Class 1	Fire regimes are within an historical range, and the risk of losing key ecosystem components is low. Vegetation attributes (species composition and structure) are intact and functioning within an historical range.	Where appropriate, these areas can be maintained within the historical fire regime by treatments such as fire use.
Condition Class 2	Fire regimes have been moderately altered from their historical range. The risk of losing key ecosystem components is moderate. Fire frequencies have departed from historical frequencies by one or more return intervals (either increased or decreased). This results in moderate changes to one or more of the following: fire size, intensity, severity, and landscape patterns. Vegetation attributes have been moderately altered from their historical range.	Where appropriate, these areas may need moderate levels of restoration treatments, such as fire use and hand or mechanical treatments, to be restored to the historical fire regime.
Condition Class 3	Fire regimes have been significantly altered from their historical range. The risk of losing key ecosystem components is high. Fire frequencies have departed from historical frequencies by multiple return intervals. This results in dramatic changes to one or more of the following: fire size, intensity, severity, and landscape patterns. Vegetation attributes have been significantly altered from their historical range.	Where appropriate, these areas may need high levels of restoration treatments, such as hand or mechanical treatments, before fire can be used to restore the historical fire regime.

5. Vegetation Communities by Historical Fire Regimes and Current Condition Class

A vegetation map for Capitol Reef is currently being produced so exact acreages by vegetation community are not available. Several items produced during the vegetation mapping process are available and are useful to describe current condition. A tree and shrub density map was created using digital ortho- photos and GIS. This information helped differentiate between woodlands and grasslands and between open and closed canopy woodlands. Plot data used to describe vegetation communities helped derive average cover of grasses, shrubs, and bare ground within the fuel types. Existing geology maps were also used to help define cover values, especially those with no vegetation.

Table 4 is derived from the information described previously and shows the vegetation cover types by percent of the Park, historical fire regime class, and current condition class. Table 4 utilizes the vegetation breakdowns described in the fuels section with the historical fire regime class designation from Table 2, above. Specific fire history information for the vegetation types at Capitol Reef has not been developed to date. The historical fire regime classification is presented here in a general sense to categorize

each fuel cover type by frequency and severity. When a vegetation map for the Park is completed, it will be used to refine and update the fuel cover types, fire regimes, and condition classes.

Table 4: Vegetation Communities by Historical Fire Regime[i] and Current Condition Class[i]

Fuel cover type	Percent of Park	Historical Fire Regime Class (FR)[i]	Current Condition Class (CC)[i]
No Vegetation	33	NA	NA
Grassland and Sparse Shrubland	54	IV	1
Open Canopy Woodland and Forest	12	V	1
Closed Canopy Woodland and Forest	1	V	1

[i]Historical fire regime and Current Condition Class for each vegetation type was determined using expert and local knowledge and experience with these vegetation types. The fire effects information system also provided insight into vegetation characteristics and responses related to fire (FEIS 2004). Refined work is needed on these historical fire regimes and current condition classes. The national direction is to map these classifications at the landscape scale (6th code watershed) with plot assessments sampled on the ground. A secondary level is to classify historical fire regime and current condition class utilizing vegetation maps.

See references: (Hann and Bunnell 2001), and (Schmidt et. al. 2002).

6. Control Problems & Dominant Topographic Features

The 100- mile long Waterpocket Fold is the dominant topographic feature of the Park and creates many safety concerns for fire personnel. With its deep steep walled canyons, inaccessible sandstone domes, and rapid elevation drop from west to east, the Fold is a difficult place for cross- country navigation especially for people not familiar with the area. The weather conditions during times when natural wildfires occur is typically low lying clouds with locally intense wind and rainfall, which further reduces visibility and impedes navigation. Unstable soil and pebbles on steep slickrock or talus are a hazard to foot travel in dry weather but become a serious concern when wet. Access to much of the area is by walking through narrow canyons. During fire season, the canyons of the Waterpocket Fold have a high potential for flash floods that can trap the unwary. Usually when lighting storms occur, there are also heavy rains, which increases the probability of flash flooding. During these times, emergency personnel (which are also fire personnel) are usually busy responding to incidents related to flood safety.

Woodlands on the high elevation benches and brushy north- facing canyons that occur along the west boundary of the Park have the highest potential to carry a fire. Access to these areas is on rough 4- wheel drive roads that are often impassible after rainstorms

due to road washouts and slick clay surfaces. Safety risks to ground personnel are high in these locations also because of the steep terrain and slippery mud. These benches and canyons have the greatest potential to carry a fire onto neighboring agency lands and, in one location, to continue into areas of wildland urban interface. An analysis of all these safety concerns as part of the Initial Fire Assessment is required before sending out any fire personnel into such dangerous conditions.

E. Description of Wildland Fire Management Strategies by Fire Management Unit (FMU)

A "Fire Management Unit" (FMU) is any land management area definable by objectives, land features, access, values to be protected, political boundaries, fuel types, major fire regimes, or areas of special management designated by policy or congressional action [i.e., wilderness, wilderness study area, etc]. Each FMU will have fire management strategies (and any constraints) to help accomplish objectives identified for that FMU.

Pursuant to this plan, Capitol Reef will be divided into 5 fire management units (Figure 2). The FMUs described below are defined primarily by major fire management strategy (wildland fire use versus suppression) and adjacent land management agency, whose cooperation is needed to effectively manage the fire program.

1. Greater Capitol Reef FMU.

This unit comprises the majority of the Park and is characterized by exposed geologic formations with low vegetation density, low potential for sustaining a wildfire, and limited road or trail access. It contains over 192,000 acres of land (78.9% of the Park) and consists of all the land area not within the subsequent four FMUs. It has approximately 120 miles of boundary with several federal agencies (95 mi. BLM, 11 mi. Glen Canyon NRA, 8 mi. Grand Staircase Escalante NM, 3 mi. Dixie NF, 3 mi. Fishlake NF), 10 miles with state of Utah lands, and 4 miles of private land. There is one 640-acre section of land in the FMU with surface rights owned by the state of Utah.

Fire management strategies, tactics, and constraints for all the units and those specific to this FMU are described starting on page 53.

a. FMU Description.

Topography

Much of this FMU is very rugged terrain with sheer cliffs, deep canyons, spires, and domes. The Park is tilted to the east along its length and is deeply incised by ephemeral watercourses. Accessibility to much of the FMU is limited to non- existent and, when present, takes considerable time. The Park is 70 miles long with only a few dirt roads providing access along this length. The southern point of the Park is a 2- hour drive plus 5- mile hike from headquarters and the northern point is 1½ to 2 hours drive. Mostly

level valleys run north to south through the Park but cliffs usually bound these valleys on the east and west.

Water Resources
Portions of all major and minor streams in Capitol Reef occur in this FMU. There are also numerous permanent and ephemeral waterpockets, springs, and seeps through the unit. Waterpockets south of the Burr Trail have been inventoried and mapped but the remainder of the unit has not been surveyed for minor water resources.

Vegetation
Vegetation communities and species in this FMU reflect the high diversity found throughout the Park. Upland communities are generally sparsely vegetated with 96% of the unit containing less than 25% tree/shrub cover and 73% with less than 7% cover. These areas would not carry a canopy fire because of the distance between individual trees. In addition, most non- woodland vegetation types present at the Park have grass/shrub cover less than 20% and also will not sustain a wildfire. Dominant upland species include saltbush species, rabbitbrush, galleta grass, Indian ricegrass, and blue grama with some pinyon pine, Utah juniper, greasewood, and sagebrush.

Riparian/woodlands occur along the bottomlands of the Fremont River and Oak, Pleasant, and Halls Creek. The Riparian/woodlands contain varying densities of Fremont cottonwood trees intermixed with willows and other wetland species. The developed areas at headquarters and the Sleeping Rainbow Ranch are pasture/orchards composed mostly of non- native grass and tree species, which rely on irrigation systems for water. In this FMU, these riparian and orchard communities make up the majority of area that has over 60% vegetative cover.

There are nine species of federally listed plants in this unit, most of which occur in clay or sandstone areas with very little other vegetation. There are thirty additional sensitive plants species that also occur primarily on sparsely vegetated substrates. One listed and one sensitive plant species occur in wetland habitats immediately adjacent to streams and are unlikely to be affected by wildfire. Exact locations of listed and sensitive species are maintained on GIS and are available by contacting the Division of Resource Management and Science.

Soils/Geology
Soils and geologic maps exist for the entire Park. Within this unit, surface materials range from wind blown sand to coarse shale deposits to hard rock sandstone and are characteristic of the typical surface found in each geologic formation. Stream channels and wash drainages contain mixed alluvial materials from a wide variety of sources. In upland locations where soils developed, they have shallow soil horizons typical of arid environments. Most of the FMU is composed of barren soil and rock with sparse vegetation that is incapable of sustaining a wildfire.

Wildlife
Wildlife present in this FMU is typical of that found throughout the Park. Bighorn sheep and deer are found year around in this unit and elk travel down into the area during winters. Perennial stream courses generally have the most abundant numbers of wildlife in all taxa. There are four species of federally listed animals that are known occur in the FMU, Mexican spotted owl, western yellow- billed cuckoo, southwestern willow flycatcher, and bald eagle.

Air Quality
Air quality in the Park (and this FMU) is generally very good. The Utah State Implementation Plan identified Capitol Reef National Park as a Class I airshed. A draft Air Quality Report for the Park identified the in- park and outside sources and quantities of pollutants. The largest amount of air quality degradation comes from dust particulates during periods of high wind. There are several sources of industrial air pollution in the four corners area that contribute to regional haze. Minor air pollution occurs during the spring and fall from the burning of timber slash and agricultural debris adjacent to the Park. During the winter months, campfires in the campground are small sources of localized air quality degradation.

Archeological Resources
Less than 10% of the Park has been systematically surveyed for archeological sites. Most of the Park's 560 known, documented archeological sites are along major drainages, such as the Fremont River and Oak and Pleasant Creeks. The Park was inventoried in 1996- 2000 by archeologists from Brigham Young University. The inventory covered 5% of the Park and recorded over 700 new archeological sites. American Indian sites include rock art, pit house sites, and open scatters of flakes, ceramics, or ground stone. Data show that Capitol Reef has an average site density of one site for approximately every 40 acres of land. Accordingly, there are an estimated 6,000 archeological sites within the Park boundaries. Some of these are within protected alcoves, but the vast majority are undatable lithic scatters lying on open ground in predominately pinyon/juniper forests. No archeological sites have been identified as requiring any special protection from wildfire, although fire suppression activities (i.e. line construction) would likely result in unwanted disturbance of these areas. It is possible that sites requiring fire protection and suppression may be identified in the future. Exact locations of archeological sites are maintained on GIS and are available by contacting the Division of Resource Management and Science.

Historical Resources
Historical cultural resources at Capitol Reef are much more vulnerable to fire damage than are archeological resources. Historic sites include buildings and structures related to ranch operations, Mormon settlement, and mining. The Fruita Rural Historic District, which includes the headquarters area, is a major concern in this regard. The

district includes numerous historic buildings and other structures, including wood frame homes and barns. Many of these buildings and structures are used for staff and/or interpretive purposes, which increases the likelihood of human caused fire occurring there. In the backcountry, three historic sites have been identified that need special protection from wildfire. The first is the Lesley Morrell Line Cabin and Corral in the Park's Cathedral District. The cabin dates to the 1920's and is listed on the National Register of Historic Places. The second is The Post Corral, which dates to 1950 and is located in the Park's Waterpocket District. The large corral is located at a popular backcounty trailhead, and is currently being used as an equestrian camp site. The third is the Duchess Mine in the Waterpocket District. This site dates from the 1950's uranium mining days and may be eligible for National Register listing.

Wilderness

Over 75% of this FMU is within areas recommended as wilderness in the Park's 1974 Wilderness proposal. In addition, 92% of the FMU is within the primitive and semi-primitive zones designated in the Capitol Reef General Management Plan (2001). These zones were designed with future desired conditions that protect their wilderness values and resources.

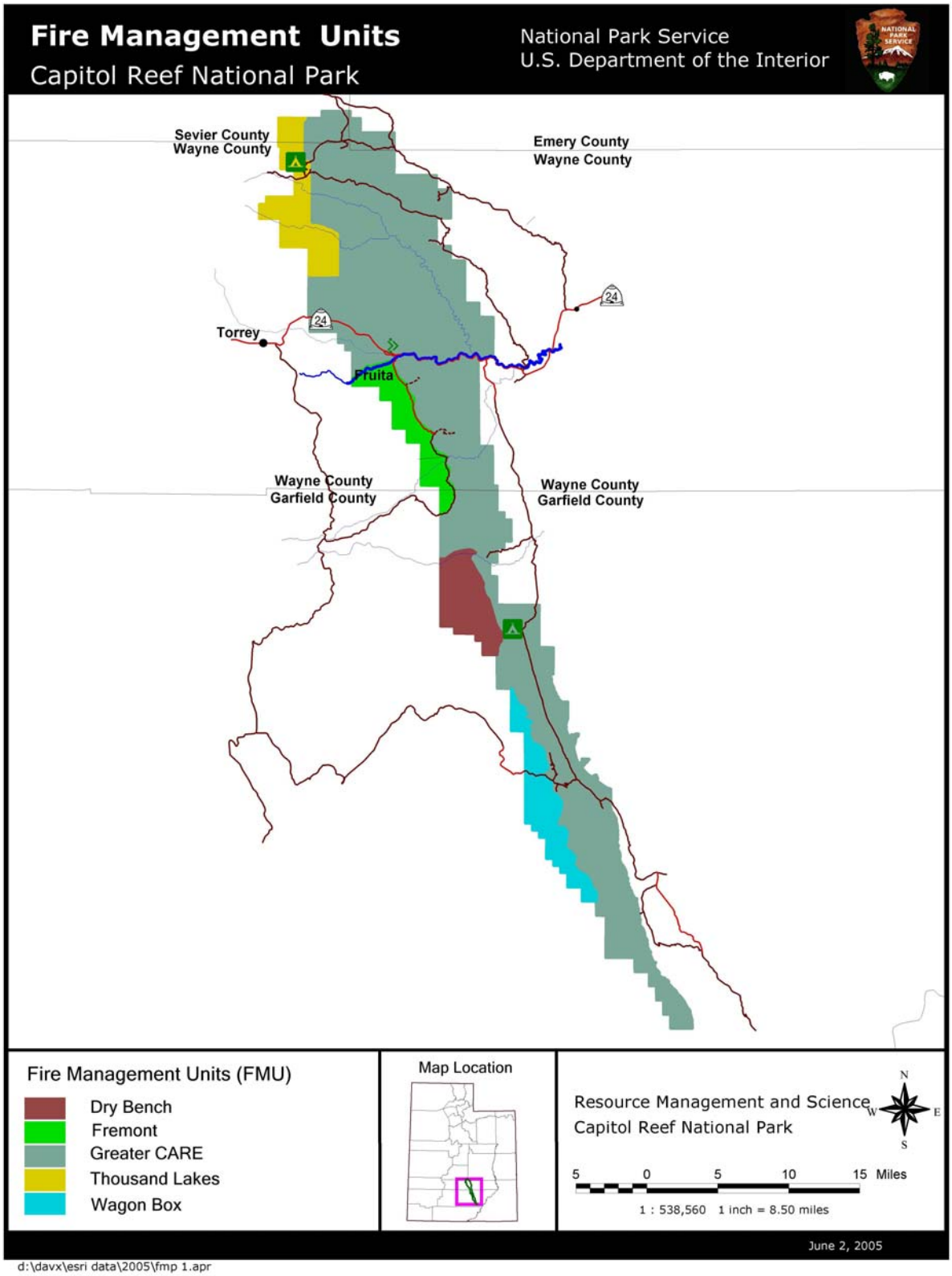
Fire Management Units
Capitol Reef National Park
National Park Service
U.S. Department of the Interior
Sevier County
Wayne County
Emery County
Wayne County
Torrey
Fruita
24
Wayne County
Garfield County
Wayne County
Garfield County
Fire Management Units (FMU)
Dry Bench
Fremont
Greater CARE
Thousand Lakes
Wagon Box
Map Location
Resource Management and Science
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Figure 2.

2. Thousand Lakes FMU.

This FMU lies on the western boundary of the Park from Jones Bench south to Water Canyon. It consists of 15,030 acres (6.2% of the Park) and is encompassed by Jones Bench on the north, sparsely vegetated lands on the east, Water Canyon on the south, and the Park boundary on the west. It borders 12½ miles of land managed by the Fishlake National Forest.

Fire management strategies, tactics, and constraints for all the units and those specific to this FMU are described starting on page 53. These strategies are patterned after those found in the adjacent Thousand Lakes FMU managed by the Fishlake National Forest and will help to cooperatively manage fire on these lands.

a. FMU Description.

Topography

The majority of this FMU is very rugged terrain of shear cliffs, deep canyons, spires, and domes. Accessibility is extremely limited and takes considerable time. The FMU has only a two dirt roads providing access, the Polk Creek road and the Paradise Flats road. The southern portion of the FMU is a 2- hour drive plus up to 5- mile hike from headquarters and the northern portion is 1½ to 2 hours drive with similar hiking.

Water Resources

Three minor water sources occur in this FMU: Polk Creek, Deep Creek, and Water Canyon. There are also a few other permanent and ephemeral waterpockets, springs, and seeps in the unit. None of the minor water resources have been inventoried and mapped.

Vegetation

Vegetation communities and species in this FMU reflect the types found at similar higher elevation areas. Upland communities are generally sparsely vegetated with 62% of the unit containing less than 25% tree/shrub cover. These areas would not carry a canopy fire because of the distance between individual trees. In addition, most non-woodland vegetation types present have grass/shrub cover of less than 20% that also will not sustain a wildfire. Dominant upland species include saltbush species, rabbitbrush, galleta grass, Indian ricegrass, and blue grama with some pinyon pine, Utah juniper, ponderosa pine, greasewood, and sagebrush.

This FMU contains the densest areas of potentially flammable vegetation in the Park with several areas extending onto adjacent Forest Service lands. About 38% of the FMU has tree/shrub vegetation cover over 26% and 6% has over 60% cover (Figure 3). The largest patch of vegetation where wildland fire use would be used in this FMU is about 1,500 acres. Dense patches of mountain mahogany communities present the highest risk for fire in the unit but total less than 100 acres.

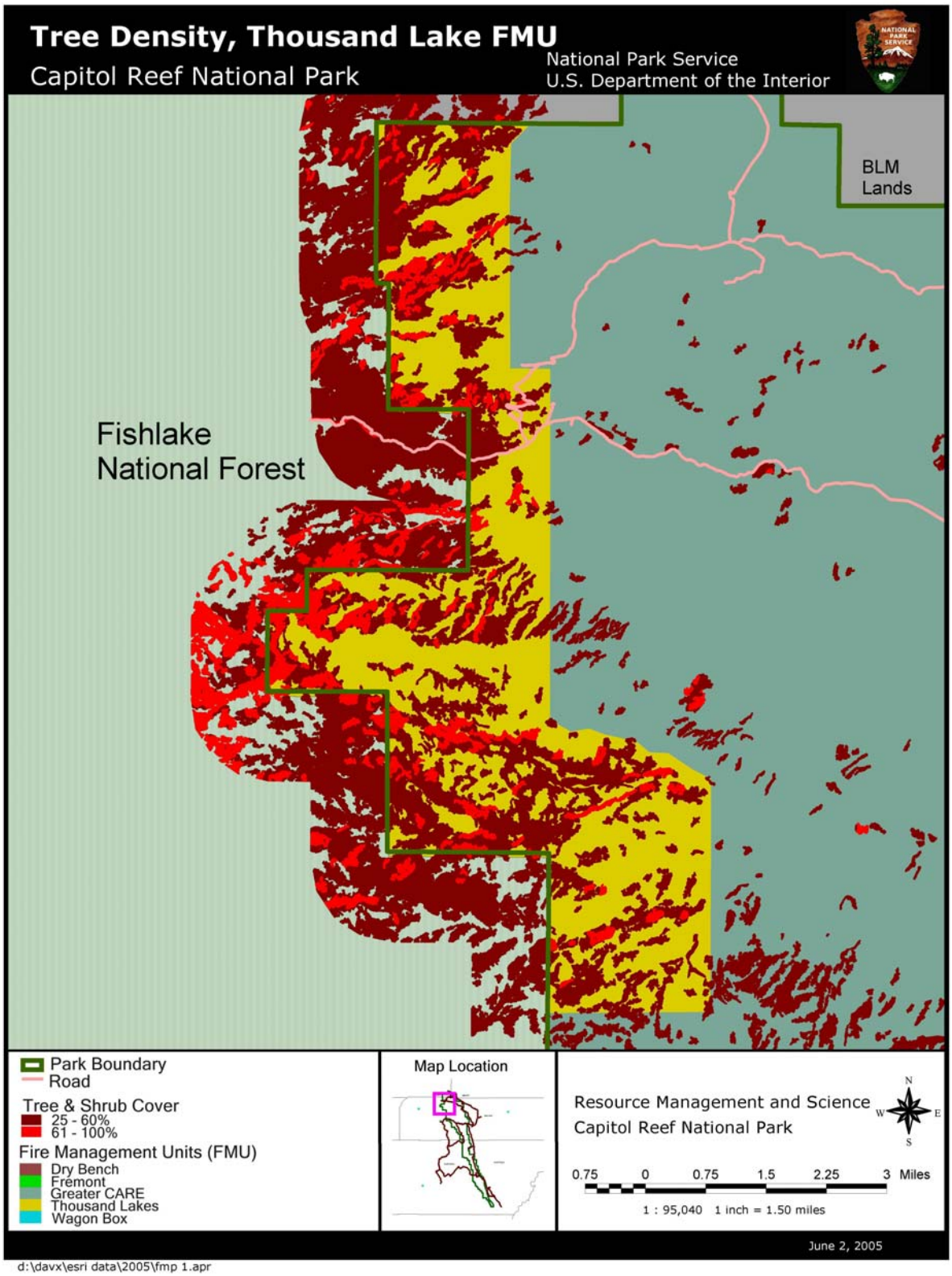
There are three species of federally listed plants in this unit, which occur in clay or sandstone areas with very little other vegetation. Exact locations of listed and sensitive species are maintained on GIS and are available by contacting the Division of Resource Management and Science.

Soils/Geology
Soils and geologic maps exist for the entire Park. Within this unit, surface materials range from wind blown sand to coarse shale deposits to hard rock sandstone and are characteristic of the typical surface found in each geologic formation. Stream channels and wash drainages contain mixed alluvial materials from a wide variety of sources. In upland locations where soils developed, they have shallow soil horizons typical of arid environments. Much of the FMU is composed of barren soil and rock with sparse vegetation that is incapable of sustaining a wildfire.

Wildlife
Wildlife present in this FMU is typical of that found throughout the Park. Deer are found year around in this unit and elk travel into the area during winters. Perennial stream courses generally have the most abundant numbers of wildlife in all taxa. There is one federally listed animal that occurs in this FMU, the Mexican spotted owl.

Air Quality
Air quality in the Park (and this FMU) is generally very good. The Utah State Implementation Plan identified Capitol Reef National Park as a Class I airshed. A draft Air Quality Report for the Park identified the in- park and outside sources and quantities of pollutants. The largest amount of air quality degradation comes from dust particulates during periods of high wind. There are several sources of industrial air pollution in the four corners area that contribute to regional haze. Minor air pollution occurs during the spring and fall from the burning of timber slash and agricultural debris adjacent to the Park.

Archeological Resources
This FMU contains several concentrations of archeological resources. No archeological sites have been identified as requiring any special protection from wildfire, although fire suppression activities (i.e. line construction) would likely result in unwanted disturbance of these areas. It is possible that sites requiring fire protection and suppression may be identified in the future. Exact locations of archeological sites are maintained on GIS and are available by contacting the Division of Resource Management and Science.


Tree Density, Thousand Lake FMU
Capitol Reef National Park
National Park Service
U.S. Department of the Interior
BLM
Lands
Fishlake
National Forest
Park Boundary
Road
Tree & Shrub Cover
25 - 60%
61 - 100%
Fire Management Units (FMU)
Dry Bench
Fremont
Greater CARE
Thousand Lakes
Wagon Box
Map Location
Resource Management and Science
Capitol Reef National Park
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0.75 0 0.75 1.5 2.25 3 Miles
1 : 95,040 1 inch = 1.50 miles
June 2, 2005
d:\davx\esri data\2005\fmp 1.apr

Figure 3

Historical Resources
No historical resources have been identified within this FMU.

Wilderness
Over 86% of this FMU is within areas proposed as wilderness in the Park's 1974 Wilderness Recommendation. In addition, the entire unit is within the primitive and semi- primitive zones designated in the Capitol Reef General Management Plan (2001) except for a small road corridor. These zones were designed with future desired conditions that protect their wilderness values and resources.

3. Fremont FMU.

This FMU lies on the western boundary of the Park from the Fremont River south to Buck Point. It consists of 11,100 acres (4.5% of the Park) and is encompassed by the Fremont River on the north, Scenic Drive and South Draw roads on the east and south, and the Park boundary on the west. It borders 11½ miles of land managed by the Richfield Field Office of BLM, 3 miles of the Dixie National Forest, and 1 mile of State of Utah land.

Fire management strategies, tactics, and constraints for all the units and those specific to this FMU are described starting on page 53. These strategies are patterned after those found in the adjacent Fremont FMU managed by the BLM Richfield Field Office and will help to cooperatively manage fire on these lands.

a. FMU Description.

Topography
The majority of this FMU is west to east sloping terrain dissected occasionally by deep canyons. The FMU is bounded by the Scenic Drive road and the South Draw road but no roads run through the unit. Two dirt roads approach the west side of the unit on Miner's Mountain and Beas Lewis Flat. Access to the interior of the unit is determined by the distance from these roads and could take up to two hours of hiking to reach.

Water Resources
Two major water sources occur in this FMU: the Fremont River on the northern boundary and Pleasant Creek, which runs through the unit. There are very few other permanent or ephemeral water sources in the unit. None of the minor water resources have been inventoried and mapped.

Vegetation
Vegetation communities and species in this FMU are dominated by pinyon pine and Utah juniper. Upland communities are generally sparsely vegetated with 83% of the unit containing less than 25% tree/shrub cover. These areas would not carry a canopy fire because of the distance between individual trees. In addition, most non- woodland vegetation types present have grass/shrub cover of less than 20% that also will not

sustain a wildfire. Dominant upland species include saltbush species, rabbitbrush, galleta grass, Indian ricegrass, and blue grama with some pinyon pine, Utah juniper, ponderosa pine, greasewood, and sagebrush.

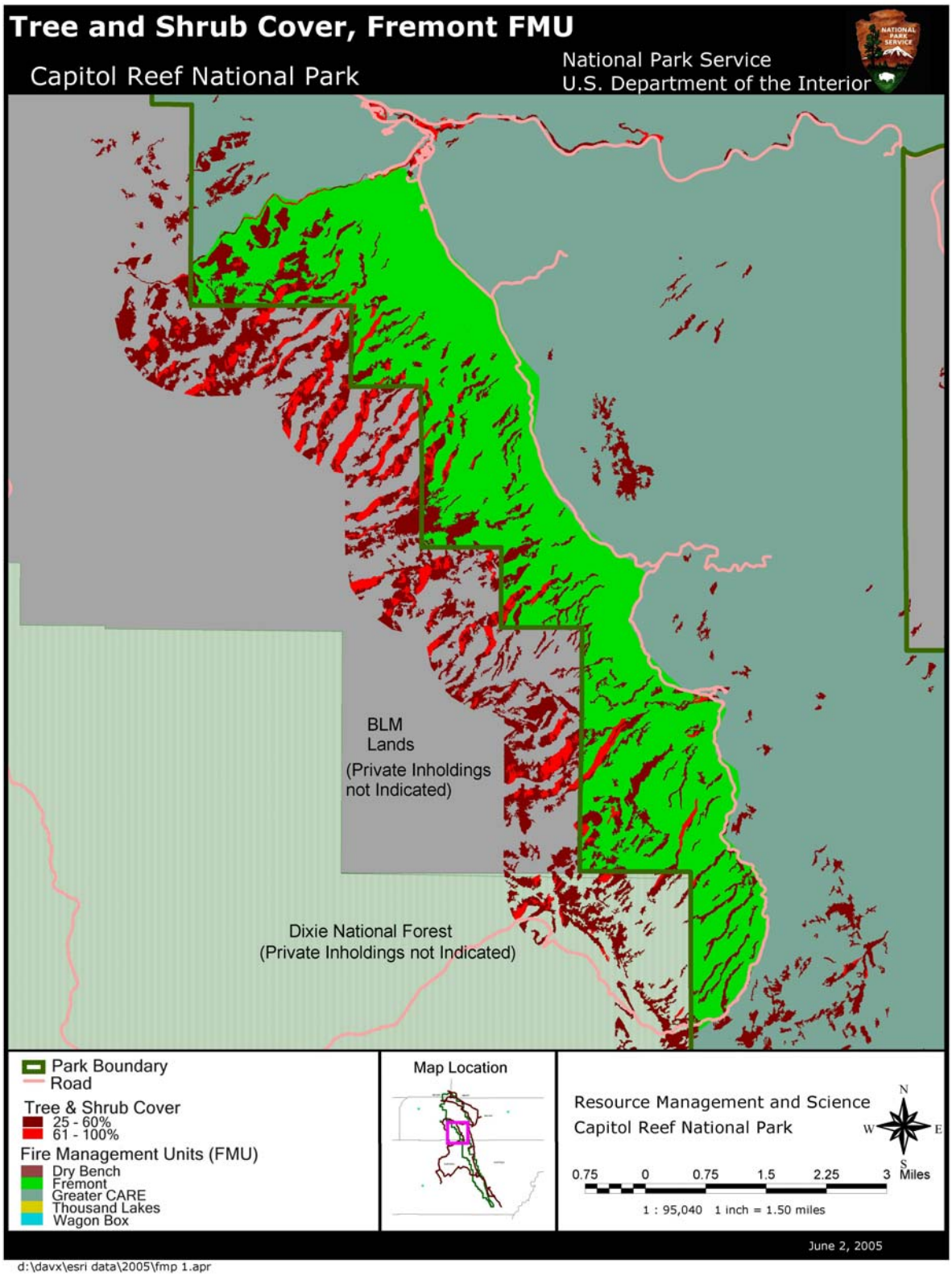
This FMU contains some dense areas of potentially flammable vegetation with several areas extending onto adjacent Forest Service and BLM lands. About 17% of the FMU has vegetation cover over 26% and 2% has over 60% cover (Figure 4). The largest patch of dense vegetation in this FMU that is contiguous with adjacent BLM land is about 150 acres. Linear patches of pinyon/juniper communities on north- facing slopes present the highest risk for fire in the unit.

There are two species of federally listed plants in this unit, which occur in clay areas with very little other vegetation. Exact locations of listed and sensitive species are maintained on GIS and are available by contacting the Division of Resource Management and Science.

Soils/Geology
Soils and geologic maps exist for the entire Park. Within this unit, surface materials range from wind blown sand to coarse shale deposits to hard rock sandstone and are characteristic of the typical surface found in each geologic formation. Stream channels and wash drainages contain mixed alluvial materials from a wide variety of sources. In upland locations where soils developed, they have shallow soil horizons typical of arid environments. Much of the FMU is composed of barren soil and rock with sparse vegetation that is incapable of sustaining a wildfire.

Wildlife
Wildlife present in this FMU is typical of that found throughout the Park. Deer are found year around in this unit and elk travel down into the area during winters. Perennial stream courses generally have the most abundant numbers of wildlife in all taxa. There are no federally listed animal species that occur in this FMU, but portions are in critical habitat of the Mexican spotted owl.

Air Quality
Air quality in the Park (and this FMU) is generally very good. The Utah State Implementation Plan identified Capitol Reef National Park as a Class I airshed. A draft Air Quality Report for the Park identified the in- park and outside sources and quantities of pollutants. The largest amount of air quality degradation comes from dust particulates during periods of high wind. There are several sources of industrial air pollution in the four corners area that contribute to regional haze. Minor air pollution occurs during the spring and fall from the burning of timber slash and agricultural debris adjacent to the Park.


Tree and Shrub Cover, Fremont FMU
Capitol Reef National Park
National Park Service
U.S. Department of the Interior
BLM
Lands
(Private Inholdings
not Indicated)
Dixie National Forest
(Private Inholdings not Indicated)
Park Boundary
Road
Tree & Shrub Cover
25 - 60%
61 - 100%
Fire Management Units (FMU)
Dry Bench
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Map Location
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E
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0.75 0 0.75 1.5 2.25 3 Miles
1 : 95,040 1 inch = 1.50 miles
June 2, 2005
d:\davx\esri data\2005\fmp 1.apr

Figure 4

Archeological Resources
This FMU contains several concentrations of archeological resources. No archeological sites have been identified as requiring any special protection from wildfire, although fire suppression activities (i.e. line construction) would likely result in unwanted disturbance of these areas. It is possible that sites requiring fire protection and suppression may be identified in the future. Exact locations of archeological sites are maintained on GIS and are available by contacting the Division of Resource Management and Science.

Historical Resources
No historical resources have been identified within this FMU.

Wilderness
Over 73% of this FMU is within areas proposed as wilderness in the Park's 1974 Wilderness Recommendation. In addition, 82% of the unit is within the primitive and semi- primitive zones designated in the Capitol Reef General Management Plan (2001). These zones were designed with future desired conditions that protect their wilderness values and resources.

4. Dry Bench FMU.

This FMU lies on the western boundary of the Park from Oak Creek south to Red Canyon. It consists of 12,300 acres (5% of the Park) and is encompassed by Oak Creek on the north, sparsely vegetated Navajo Sandstone on the east, south rim of Red Canyon in the south, and Park boundary on the west. It borders 4 miles of land managed by the Dixie National Forest and 6½ miles of the Grand Staircase- Escalante National Monument.

Fire management strategies, tactics, and constraints for all the units and those specific to this FMU are described starting on page 53. These strategies are patterned after those found in the adjacent FMU managed by the Dixie National Forest and will help to cooperatively manage fire on these lands.

a. FMU Description.

Topography
The majority of this FMU is high elevation benches dissected occasionally by deep canyons. There are no roads through the unit. A dirt road approaches the west side of the unit from Boulder Mountain but it is only accessible by all terrain vehicles. Access to the interior of the unit is determined by the distance from these roads and could take up to four hours of hiking to reach.

Water Resources
One major water source occurs in this FMU: Oak Creek on the northern boundary. Two minor water sources are present in the center of the unit at North and South

Coleman Canyons. There are other permanent and ephemeral water sources usually within the canyons in the unit but none of the minor water resources have been inventoried or mapped.

Vegetation

Vegetation communities and species in this FMU are dominated by pinyon pine and Utah juniper. Upland communities are generally sparsely vegetated with 63% of the unit containing less than 25% tree/shrub cover. These areas would not carry a canopy fire because of the distance between individual trees. In addition, most non- woodland vegetation types present have grass/shrub cover of less than 20% that also will not sustain a wildfire. Dominant upland species include saltbush species, rabbitbrush, galleta grass, Indian ricegrass, and blue grama with some pinyon pine, Utah juniper, ponderosa pine, greasewood, and sagebrush.

This FMU contains some dense areas of potentially flammable vegetation with several areas extending onto adjacent Forest Service lands. About 17% of the FMU has vegetation cover over 37% and 3% has over 60% cover (Figure 5). The largest patch of vegetation where wildland fire use would be used in this FMU is about 120 acres. Dense patches of pinyon/juniper communities on gently sloping benches present the highest risk for fire in the unit.

There is one federally listed plant species in this unit and it occurs on sandstone areas with very little other vegetation. Exact locations of listed and sensitive species are maintained on GIS and are available by contacting the Division of Resource Management and Science.

Soils/Geology

Soils and geologic maps exist for the entire Park. Within this unit, surface materials range from wind blown sand to coarse shale deposits to hard rock sandstone and are characteristic of the typical surface found in each geologic formation. Stream channels and wash drainages contain mixed alluvial materials from a wide variety of sources. In upland locations where soils developed, they have shallow soil horizons typical of arid environments. Much of the FMU is composed of barren soil and rock with sparse vegetation that is incapable of sustaining a wildfire.

Wildlife

Wildlife present in this FMU is typical of that found throughout the Park. Deer are found year around in this unit and elk travel into the area during winters. Perennial stream courses identified previously generally have the most abundant numbers of wildlife in all taxa. There is one federally listed animal species that occurs in this FMU, the Mexican spotted owl.

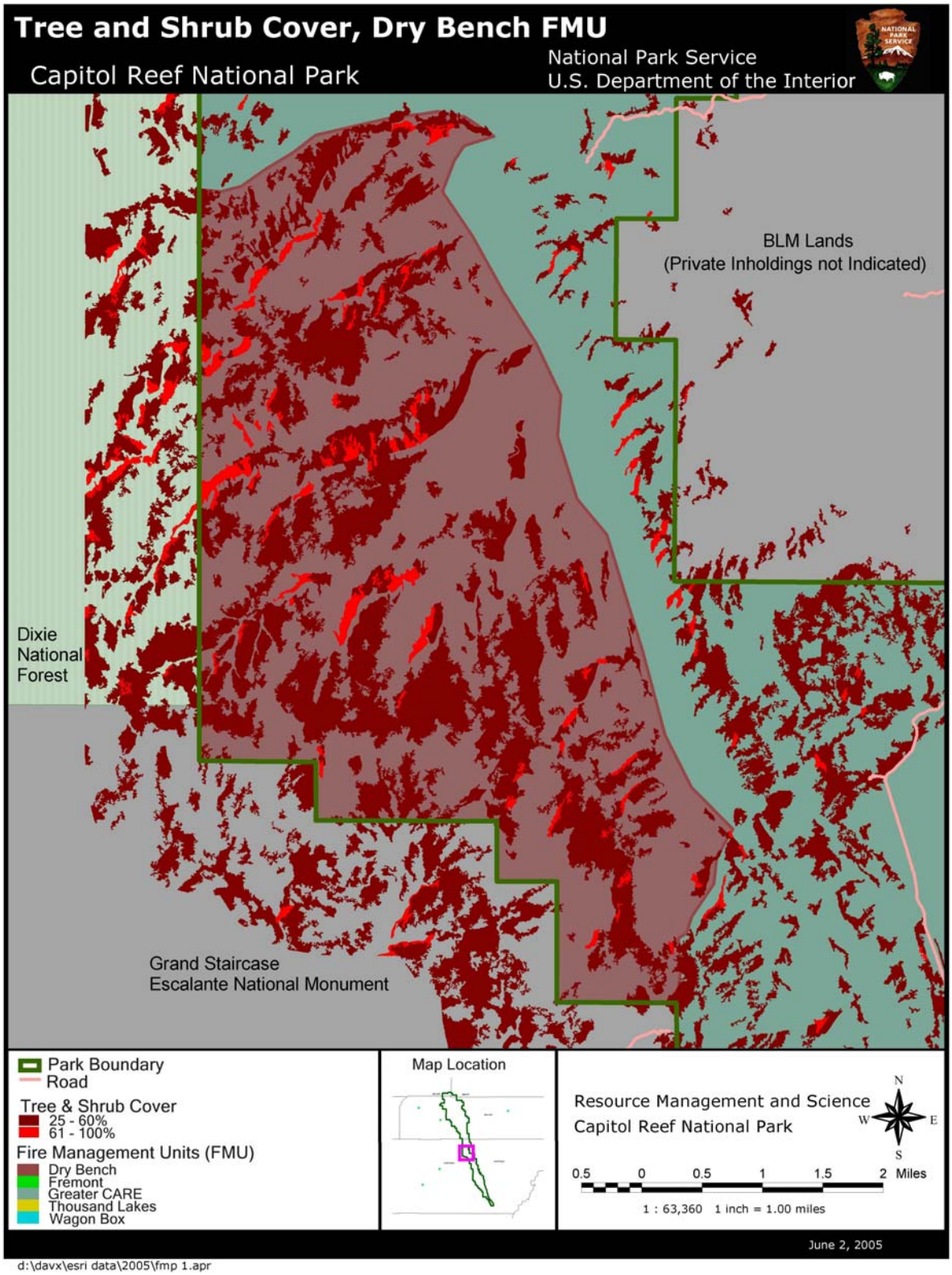
Air Quality

Air quality in the Park (and this FMU) is generally very good. The Utah State Implementation Plan identified Capitol Reef National Park as a Class I airshed. A draft Air Quality Report for the Park identified the in- park and outside sources and quantities of pollutants. The largest amount of air quality degradation comes from dust particulates during periods of high wind. There are several sources of industrial air pollution in the four corners area that contribute to regional haze. Minor air pollution occurs during the spring and fall from the burning of timber slash and agricultural debris adjacent to the Park.

Archeological Resources
This FMU contains several concentrations of archeological resources. No archeological sites have been identified as requiring any special protection from wildfire, although fire suppression activities (i.e. line construction) would likely result in unwanted disturbance of these areas. It is possible that sites requiring fire protection and suppression may be identified in the future. Exact locations of archeological sites are maintained on GIS and are available by contacting the Division of Resource Management and Science.

Historical Resources
No historical resources have been identified within this FMU.

Wilderness
All of this FMU is within areas proposed as wilderness in the Park's 1974 Wilderness Recommendation. In addition, the entire unit is within the primitive and semi-primitive zones designated in the Capitol Reef General Management Plan (2001). These zones were designed with future desired conditions that protect their wilderness values and resources.


Tree and Shrub Cover, Dry Bench FMU
Capitol Reef National Park
National Park Service
U.S. Department of the Interior
BLM Lands
(Private Inholdings not Indicated)
Dixie
National
Forest
Grand Staircase
Escalante National Monument
Park Boundary
Road
Tree & Shrub Cover
25 - 60%
61 - 100%
Fire Management Units (FMU)
Dry Bench
Fremont
Greater CARE
Thousand Lakes
Wagon Box
Map Location
Resource Management and Science
Capitol Reef National Park
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June 2, 2005
d:\davx\esri data\2005\fmp 1.apr

Figure 5

5. Wagon Box FMU.

This FMU lies on the western boundary of the Park from five miles north of the Burr Trail road south to Deer Point. It consists of 13,080 acres (5.4% of the Park) and is encompassed by the Onion Beds on the north, sparsely vegetated areas of the Waterpocket Fold on the east, and Park boundary on the south and the west. It borders 21 miles of the Grand Staircase- Escalante National Monument.

Fire management strategies, tactics, and constraints for all the units and those specific to this FMU are described starting on page 53. These strategies are patterned after those found in the adjacent FMU managed by the BLM Grand Staircase- Escalante National Monument and will help to cooperatively manage fire on these lands.

a. FMU Description.

Topography

The majority of this FMU is west to east sloping terrain dissected occasionally by deep canyons. The Burr Trail road runs through the unit. A dirt road on Grand Staircase-Escalante National Monument parallels the west side of the unit several miles away. Accessibility to the interior of the unit is determined by the distance from these roads and could take up to four hours of hiking to reach. The northern portion of the unit is very rugged with deeply dissected sandstone fins.

Water Resources

No major water sources occur in this FMU. There are very few other permanent or ephemeral water sources in the unit. None of the minor water resources have been inventoried and mapped.

Vegetation

Vegetation communities and species in this FMU are dominated by pinyon pine and Utah juniper. Upland communities are generally sparsely vegetated with 66% of the unit containing less than 25% tree/shrub cover. These areas would not carry a canopy fire because of the distance between individual trees. In addition, most non- woodland vegetation types present have grass/shrub cover of less than 20% that also will not sustain a wildfire. Dominant upland species include saltbush species, rabbitbrush, galleta grass, Indian ricegrass, and blue grama with some pinyon pine, Utah juniper, ponderosa pine, greasewood, and sagebrush.

This FMU contains some dense areas of potentially flammable vegetation with several areas extending onto adjacent national monument lands. About 17% of the FMU has vegetation cover over 34% and 4% has over 60% cover (Figure 6). The largest patch of vegetation where wildland fire use would be used in this FMU is about 350 acres. Dense patches of pinyon/juniper communities on north- facing slopes present the highest risk for fire in the unit.

There are no species of federally listed plants in this unit

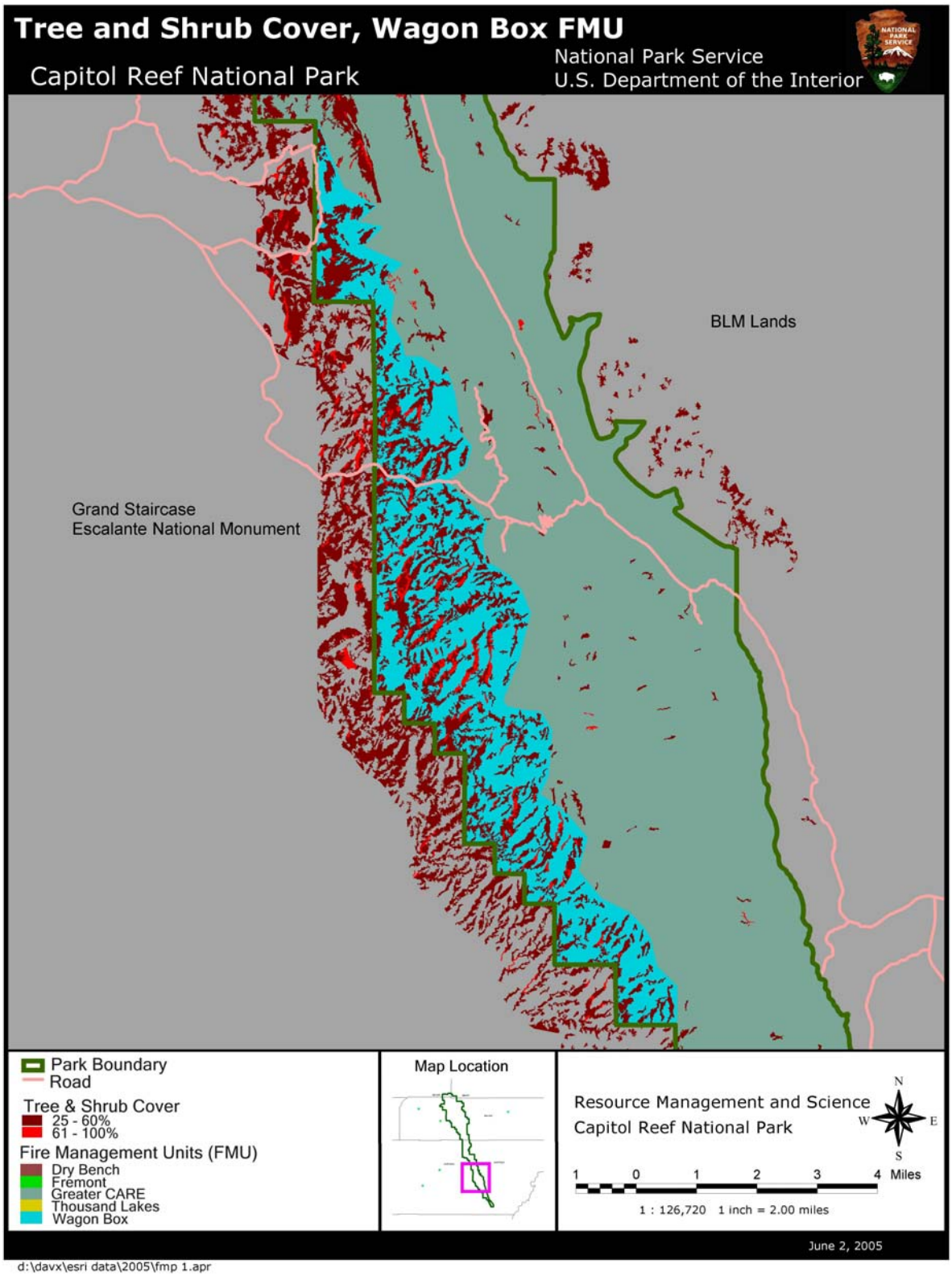
Soils/Geology
Soils and geologic maps exist for the entire Park. Within this unit, surface materials range from wind blown sand to coarse shale deposits to hard rock sandstone and are characteristic of the typical surface found in each geologic formation. Stream channels and wash drainages contain mixed alluvial materials from a wide variety of sources. In upland locations where soils developed, they have shallow soil horizons typical of arid environments. Much of the FMU is composed of barren soil and rock with sparse vegetation and is incapable of sustaining a wildfire.

Wildlife
Wildlife present in this FMU is typical of that found throughout the Park. Deer are found year around in this unit and elk travel into the area during winters. Perennial stream courses identified previously generally have the most abundant numbers of wildlife in all taxa. There are no federally listed animal species that occur in this FMU, but portions are in critical habitat of the Mexican spotted owl.

Air Quality
Air quality in the Park (and this FMU) is generally very good. The Utah State Implementation Plan identified Capitol Reef National Park as a Class I airshed. A draft Air Quality Report for the Park identified the in- park and outside sources and quantities of pollutants. The largest amount of air quality degradation comes from dust particulates during periods of high wind. There are several sources of industrial air pollution in the four corners area that contribute to regional haze. Minor air pollution occurs during the spring and fall from the burning of timber slash and agricultural debris adjacent to the Park.

Archeological Resources
This FMU contains several concentrations of archeological resources. No archeological sites have been identified as requiring any special protection from wildfire, although fire suppression activities (i.e. line construction) would likely result in unwanted disturbance of these areas. It is possible that sites requiring fire protection and suppression may be identified in the future. Exact locations of archeological sites are maintained on GIS and are available by contacting the Division of Resource Management and Science.

Historical Resources
No historical resources have been identified within this FMU.


Tree and Shrub Cover, Wagon Box FMU
Capitol Reef National Park
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Park Boundary
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Fire Management Units (FMU)
Dry Bench
Fremont
Greater CARE
Thousand Lakes
Wagon Box
Map Location
Resource Management and Science
Capitol Reef National Park
N
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1 : 126,720 1 inch = 2.00 miles
June 2, 2005
d:\davx\esri data\2005\fmp 1.apr

Figure 6

Wilderness
Over 99% of this FMU is within areas proposed as wilderness in the Park's 1974 Wilderness Recommendation. In addition, the entire unit is within the primitive and semi- primitive zones designated in the Capitol Reef General Management Plan (2001) except for the road corridor. These zones were designed with future desired conditions that protect their wilderness values and resources.

6. Management strategies and constraints.

The following strategies, tactics, and constraints on their use apply to all FMUs in the Park.

1. Allow wildland fire to spread to natural barriers, roadways, and trails with little direct action taken by hand crews. About 90% of the Park has no potential to carry a fire due to sparse vegetation and large areas of natural firebreaks. Any fires in those areas will not require a suppression response from fire personnel. In addition, safety concerns due to steep terrain or other hazards may preclude any response. The location of these fires will be recorded and the fires monitored from the closest access point to determine if there are other safety or resource reasons for additional management actions.

2. Ground crews with hand tools or chain saws may be used to build fire lines or protect specified sensitive sites from the threat of fire. Off- road use of vehicles or other mechanical equipment in the backcountry will be subject to approval by the Superintendent and based on a wilderness minimum tool analysis. Suppression actions such as line construction will be conducted in such a way as to minimize long- term environmental and wilderness resource impacts and will not be used in areas with federally listed threatened or endangered species or sensitive cultural resources as identified by Park resource management specialists. Known archeological sites will be avoided.

3. Helicopters may be used to transport personnel and equipment to remote sites or to drop fire retardant/water to control fire spread. Fixed- wing aircraft may be used to drop fire retardant or water to control fire spread. Any such use of aircraft will require approval of the Superintendent. Aircraft are to avoid peregrine falcon, Mexican spotted owl, and golden eagle nesting sites, areas with federally listed threatened or endangered species, and known historic sites. These restricted areas will be identified by Park resource management specialists prior to any aircraft retardant or water drops. Helicopters use in the backcountry will be subject to approval by the Superintendent and based on a wilderness minimum tool analysis. Helispots will be approved in advance by park resource advisors using the same analysis.

4. Water collection from lakes, ponds, streams, or waterpockets by pumper trucks or helicopters may be used after approval by park resource advisors. Off- road

use of vehicles, helicopters, or other mechanical equipment in the Park will be subject to approval by the Superintendent and based on a wilderness minimum tool analysis.

5. Horses may be used to transport equipment to remote sites. The Park and surrounding federal agencies have horses that can be used to transport equipment to crews fighting fires in the backcountry. Use of horses in areas closed to horse use will be subject to approval by the Superintendent.

6. Heavy equipment may be used to build fire lines. Dozers and other soil-moving heavy equipment will not be used without the approval of the Superintendent and based on a wilderness minimum tool analysis. Suppression actions such as line construction will be conducted in such a way as to minimize long- term environmental and wilderness resource impacts. Heavy equipment will not be used in areas with federally listed threatened or endangered species or sensitive cultural resources as identified by Park resource management specialists.

7. Area closure or evacuation may be implemented to minimize potential of catastrophic fire or safety concerns. During times of severe fire danger, areas with high fuel loads may be closed to the public for safety reasons. Fire, outdoor stove, and smoking restrictions may be implemented to reduce the chances of human caused fires. Such closures can only be authorized by the Superintendent.

8. Investigations or reviews of fire causes or management actions will be conducted. All investigations will be coordinated through the Chief Ranger.

9. Park specific safety and resource sensitivity training will be conducted. There are many safety issues unique to this area including many federal listed plant and animal species and sensitive cultural resources. Training for fire crews on these issues will help reduce the potential for safety incidents and resource impacts.

10. Fire weather stations may be established to monitor for dangerous conditions. If conditions warrant, a temporary fire weather station could be brought in to monitor the situation.

11. Fire behavior and objectives monitoring will be conducted to determine the best AMR methods to achieve resource management objectives.

12. Habitat restoration after fire may be used to accomplish resource management objectives, but may not be paid by wildland fire accounts. Long term or habitat

restoration may be considered for BAER funding. Sites impacted by fire suppression actions will be rehabilitated immediately as necessary by fire accounts, based on an approved standards developed for each incident.

13. Press releases or public information brochures concerning fire related activities will be issued. Any public information distribution will be approved by the Park's public information officer and/or Superintendent.

The following specific strategies and constraints apply to the FMU(s) identified with each.

1. Within the Thousand Lakes, Dry Bench, and Wagon Box FMUs, wildland fire use may occur where vegetation cover exceeds 25% and crosses the Park boundary onto adjacent lands. This strategy is consistent with the strategies of neighboring agencies' fire management plans adjacent to these FMUs. All actions on fires occurring in these units will be coordinated with the adjacent management agency.

2. Within the Greater Capitol Reef FMU, wildland fire use will not be used as a strategy. A confine/contain suppression strategy will be used on all fires in this unit.

3. Within the Fremont FMU, wildland fire use will not be used as a strategy. A confine/contain suppression strategy will be used on all fires in this unit because of the close proximity to the wildland urban interface surrounding the community of Grover. To be consistent with the adjacent Fremont FMU managed by BLM, fires will be suppressed at 1,500 acres or less 90% of the time.

4. For protection of Mexican spotted owls and their habitat, fire suppression actions and aircraft activity are not allowed in or within 100 yards of the rim of Water Canyon in the Thousand Lakes FMU at any time of year.

5. For protection of Mexican spotted owls and their habitat, fire suppression actions and aircraft activity are not allowed in or within 100 yards of the rim of South Coleman Canyon in the Dry Bench FMU at any time of year.

IV. Wildland Fire Management Program Components

Implementation of wildland fire management components will be consistent with fire management capabilities and will consider the current and predicted conditions affecting fire behavior. Operational activities will be followed according to the latest edition of the Interagency Standards for Fire and Fire Aviation Operations Handbook, also known as the Redbook. Preplanned components for the Park include the full range of fire suppression and fire use as described in the FMU strategies.

A strategic fire size- up (WFIP stage I) will be completed for all wildland fires in all areas where WFU is allowed and prepared by the Unit Duty Officer for the Superintendent's decision signature. A stage I also needs to be prepared if an AMR/suppression decision is made, and that response must be justified in writing in the stage I. The size- up identifies the current and predicted situation, documents all appropriate administrative information, and aids managers by providing the decision criteria checklist (see Appendix L, Wildland Fire Use Implementation Procedures Reference Guide (WFUIPRG)). For park areas where WFU is not allowed, and AMR suppression is the only acceptable strategy, use the size- up checklists in the Fireline Handbook or the Incident Response Pocket Guide.

The Strategic Fire Size- Up consists of standard information set needed to determine if the fire meets the requirements for Wildland Fire Use management. The Wildland Fire Coordinator for the Park is responsible within his/her delegated authority for determining if the fire meets minimum Wildland Fire Use requirements and keeping the Agency Administrator (Superintendent) informed of the situation. Two key pieces of information collected for the Strategic Fire Size- Up will help make this determination. These are fire location in regard to the Fire Management Plan's Fire Management Unit and the cause of the fire. Location of the fire in an FMU not approved for wildland fire use or being human- caused will initiate an AMR suppression response. If the fire is located in an FMU approved for wildland fire use and naturally ignited, it becomes a Wildland Fire Use candidate and the planning process continues into the Decision Criteria Checklist, as guided by the WFU IPRG.

The Decision Criteria Checklist consists of three sections: Decision Elements, Approved Response Action, and Justification for Suppression Response. The Decision Elements are five questions the Agency Administrator must answer. This process allows the Superintendent to gain better situational awareness and helps evaluate if the current wildland fire should be managed under a WFU response. These questions assess threats from the fire, potential effects of the fire, risk from the fire, effects of other fire activity on management capability, and allow the Agency Administrator (Superintendent) to consider external or other unanticipated issues. To complete the checklist, the Agency Administrator answers the decision elements, based on input from his/her staff, and determines if the fire should receive a WFU management response or a suppression response. A "Yes" response to any of the five elements indicates that management

should take a suppression response. All "No" answers to the decision elements indicate that the fire is a viable candidate to be managed as a WFU.

A. Wildland Fire Suppression

A wildland fire is any unplanned fire. It may be caused by natural ignition such as lightning or by human- caused ignitions. Historically, all wildland fires have been suppressed at Capitol Reef National Park. Due to the Park's size and inaccessible nature, many small fires probably have gone unnoticed in the remote backcountry. Under this plan, the Park will use the appropriate management response as determined by considering the first priority, human safety, and then looking at threat and potential damage to resources or property, fire resources available, and cost effectiveness.

1. Preparedness Actions

a. Fire Prevention

Fire prevention includes all activities designed to reduce human- caused wildfires within and adjacent to the Park. The Park fire prevention program will include the following activities:

- Pertinent signs, posters, and notices will be posted on bulletin boards around the Park (e.g., smoking bans, no fires allowed, etc.), as appropriate.
- Fire prevention messages will be included in Park literature, news releases, interpretive programs, and exhibits as appropriate.
- Uniformed Park personnel will share appropriate fire prevention information with visitors and neighbors through informal contacts.
- Appropriate enforcement actions will be taken against violators of fire-related restrictions and bans.
- Fire- related restrictions (e.g., smoking bans) will coincide with other those on other public lands in the Central Utah Fire Management Plan area.
- Closure of all or a portion of the Park will be implemented when conditions warrant, per the guidelines contained in the Park's Emergency Operations Plan.
- Annual inspections of park facilities and motorized equipment to insure compliance with prevention standards, (elimination of fire hazards, insuring spark arrestors are operable, fire extinguishers in place, etc.)

b. Annual Training

All personnel assigned to assist with fire management duties will be qualified for the position assigned. Certification qualifications will be documented on a Red Card and in the possession of the person assigned. The Zion National Park Fire Management Office will maintain the training and Red Card records for the Park and will issue Red Cards to any fire qualified personnel.

Because of the lack of fires, the Park does not currently have qualified staff to manage a wildland use fire. Since policy requires an Incident Command Type 4 (ICT4) as the minimum implementation qualifications for WFU fires, the Park will rely on Zion NP and it's interagency partners to provide this expertise on WFU incidents. If the Park hires staff that has the ITC4 qualifications, training for the qualified individuals will be maintained at this level.

The Chief Ranger is responsible for fire training, including

- Recruitment of Park staff into the fire program
- Ensuring that staff receives appropriate training, including fire fighting refreshers.
- Ensuring the yearly update of individual training and pack test scores
- Coordinating with other parks or agencies to sponsor/provide training.

c. Annual Preparedness Activities

Preparedness is the process of planning and implementing activities prior to wildland fire ignitions. This process includes actions, which are completed on a routine basis prior to the most active portion of the fire season, as well as incremental actions conducted in response to increasing fire danger.

Capitol Reef National Park does not have an on- site Fire Management Officer (FMO). The FMO of Zion National Park has overall responsibility for the fire program at the Park. The Capitol Reef Chief Ranger, however, serves as the Park point of contact for the FMO and provides fire leadership in the Park with the assistance of the Zion Fire Management Office.

Prior to and during the fire season, the following actions will be taken to ensure adequate fire preparedness.

- Preparedness reviews will be conducted annually according to the interagency Fire Preparedness Review Guide found at www.fire.blm.gov/standards/precont.htm, and coordinated with the Zion FMO and/or interagency cooperators.
- Qualified fire management personnel will be recruited and trained as resources and funds allow.
- Pack test will be administered to personnel who require a fitness level certification in order to perform duties for which they are qualified.
- Employee Master file listings and Training and Incident Experience sections in Interagency Qualifications Computer System (IQCS) will be updated and fire experience and training will be submitted to Zion Fire Management Office.
- Arrange for fire qualified staff to participate in annual Fire Refreshers.
- The Central Utah Annual Operating Plan for Fire Management. This is a

cooperative plan between the Bureau of Land Management, U. S. Forest Service, U.S Fish and Wildlife Service, state of Utah, and the National Park Service for wildland fire response and resource coordination will be reviewed and updated. This plan is on file in the Park Superintendent's Office.

- Richfield Fire Dispatch Center will be provided with list of Red Carded personnel and availability.
- The past fire season will be critiqued each fall.
- An annual review and update of the Wildland Fire Management Plan will be done before each fire season.
- Step- up plan will be reviewed and recommendations for revisions will be made.
- Fire cache will be inventoried before each fire season, worn or missing items will be replaced, and vehicles used for fire activities will be restocked.
- Appropriate fire gear will be issued to Park staff with fire duties.

2. Step- Up Plan

The step- up plan is a documented procedure designed to direct incremental preparedness actions taken by park personnel. These actions are delineated by staffing classes. The five staffing classes, or stages, are ranked utilizing the Energy Release Component (ERC) of the National Fire Danger Rating System (NFDRS) and are described below. Since it gives a good indication of drought conditions, the combination of the NFDRS fuel model G (short needle pine – heavy dead and down) and the ERC were chosen for staffing even though that fuel model is not common in the park. Staffing classes are based on historical weather data at the Signal Peak fire weather station (station ID 421904). An analysis was completed using Fire Family Plus to determine ERC values that correspond to the various percentile weather classes. This analysis uses the period of 15 May through September 30th and all available years of data (1982 through 2004). The staffing class ERC is related to percentile ERC as shown below:

Staffing Class	Energy Release Component	Percentile ERC
1	0 – 70	0 to 49th
2	71 – 81	50th to 74th
3	82 – 88	75th to 89th
4	89 – 97	90th to 96th
5	98 +	97th and above

Actions in each staffing class level include the activities authorized in the preceding lower level. During holidays and special events, the current staffing class will increase by one. Note that each action in the five levels adds progressively to the actions taken in the lower preparedness levels.

Level 1

Fire Danger is low to moderate

No lightning activity is forecast for the next three days

Actions

- Monitor fire weather
- Public information is kept current
- Conduct training and other preparedness activities
- Red carded employees on normal tour of duties and available to respond if needed.

Level 2

Fire Danger is moderate to high
Lightning activity level is 2 or lower

Actions

- Inform staff of any special fire weather advisories
- Complete preparedness activities
- Fire equipment and supplies serviced and ready for use if needed.

Level 3

Fire Danger is high
Lightning activity level of 3 or below

Actions

- Monitor 3- 5 day forecast for fire danger trends
- Maintain fire fighter and individual dispatch availability.
- Implement fire related restrictions based on the actions of other public land agencies in the zone (e.g. campfire and smoking bans).
- Fire tools and equipment ready and identified in wildland fire related response vehicles.

Level 4

Fire Danger is Very High
Lightning Activity Level 3

Actions

- Consider and implement on going park- specific closures as appropriate
- Daily briefing of staff on current fire weather, advisories and Park situation
- Superintendent or Acting Superintendent is on call 7 days a week
- Increased patrols of Park where wildfire threats could cause threat/safety concerns; supported by employee overtime, as needed
- Activate preparedness account with Zion FMO
- Coordinate fire related restrictions to coincide with the actions of other public land agencies in the area (e.g. campfire and smoking bans)
- Place fire staff on extended shifts when fire danger acute and immediate response necessary.

- Inquire as to availability of ICT4's through park or partner staff if lightning predicted.
- Consider development of written severity request if appears headed for sustained period at Level 5.
- Consider aerial surveys using Glen Canyon NRA aircraft

Level 5

Fire Danger is Extreme
Lightning Activity Level of 4 or higher

Actions

- Consider and implement additional Park specific closures
- Pre- positioning Incident Commander w/Type 6 engine and staff on the Park, as appropriate
- If fire conditions are projected to be sustained at this level, request activation of severity request in coordination with other cooperators.

3. Pre- Attack Plan

The pre- attack plan (Appendix H) is a compilation of essential fire management information for Capitol Reef National Park. The plan includes important information on areas of high risk, natural firebreaks, water sources, cultural resource locations, endangered species critical habitat, structures, utilities, criteria and procedures for evacuations and closures, Park maps, vegetation/fuel maps, contacts, and fire fighting resources available near the Park. An annual update to this set of maps and procedures will be done and copies provided to the interagency fire partners.

4. Initial Attack

All suppression actions taken on wildland fires will be handled using appropriate management response. Management responses to specific wildland fires will be determined through local evaluation of public and firefighter safety, fire behavior, fuel loading, natural fire breaks, risk of escape from NPS land, values at risk, potential suppression damage, and availability of fire management resources. Management responses will vary from fire to fire and sometimes even along the perimeter of a fire. Appropriate management response options range from monitoring without on- the-ground disturbance to intense suppression actions on all perimeters of the fire. When required, initial attack on all wildland fires will be immediate and aggressive suppression action, consistent with firefighter and public safety and values to be protected. The primary objective of initial attack will be to control these fires at the earliest time, minimize cost, and keep them to their smallest practical size without jeopardizing firefighter safety. Initial attack actions will be coordinated through the Richfield Interagency Dispatch Center.

a. Appropriate initial attack response

The appropriate management response to a wildland fire within the Park will usually be

discussed with neighboring agencies prior to suppression activities. The Park may start initial attack if the fire danger is high, the fire is fast spreading, it occurs in contiguous fuels along the Park boundary, there is potential for loss of Park infrastructure or important resources, or it threatens adjacent private land.

In the event of a suppression fire escaping from the initial attack, the Chief Ranger shall prepare a Wildland Fire Situation Analysis (WFSA) for the Agency Administrator, (Superintendent). The WFSA will be completed with the assistance of the Incident Commander of the escaped fire to receive tactical input for the document. The Zion FMO or the park's federal interagency partners will be consulted when possible in this process.

Firefighter and public safety are the primary considerations when deciding strategy and tactics for the suppression of any wildland fire. Strategy and tactics should, however, minimize loss of resource values, economic expenditures, and/or use of critical firefighting resources while providing for firefighter and public safety. Decision of strategy and tactics will be made in a timely manner to ensure meeting the suppression and safety objective of the incident.

b. Confinement as the Appropriate Management Response to a Fire

An indirect attack strategy may be implemented as the initial attack action as long as it is used to enhance firefighter and public safety, minimize suppression costs and damages, and maximize availability of critical suppression and management resources during periods of high fire danger. The Appropriate Management Response may entail merely monitoring the fire, using natural fuel breaks, and allowing the fire to burn out. Less than 10% of the Park has vegetation cover that will sustain a fire and any fire will most likely be contained to a few acres by natural fuel breaks. This strategy also could be selected through the Wildland Fire Situation Analysis process when the fire has exceeded initial attack capability or it is evident that the fire will soon escape control efforts. It would be selected in combination with other strategies to fulfill Park protection obligations. More aggressive action near structures and sensitive cultural sites may require wet lines and fireline construction.

c. Response Times

Capitol Reef National Park has limited initial attack capabilities and response times are dictated by staff availability, weather conditions, and fire location. The Park would rely on local fire resources to supplement Park initial attack. The closest Volunteer Fire Departments are Torrey (10 miles), Teasdale (15 miles), and Wayne County (30 miles). Before they could fight fires on the Park, these volunteer Fire Department would need to ensure that their fire fighters are trained to NWCG standards. Federal interagency resources are located in Richfield and would be requested through the Richfield Interagency Dispatch Center. Typical response times by these departments are about one to two hours.

d. Other Issues- Reliance on Outside Resources

Cooperators and agency personnel assisting or assigned to the Park for fire management activities shall receive an orientation and briefing of current and expected fire and fire weather conditions. The Chief Ranger, or acting, shall provide this information prior to engaging incoming fire fighters in fire operations. The exception to this policy requirement is service provided by neighbors performing initial attack fire suppression per existing agreements where park concerns and sensitivities have been communicated in advance.

5. Extended Attack and Large Fire Suppression

a. Determining Extended Attack Needs

Due to fuel type and conditions, extended attack within the Park is not likely. If extended attack were to become necessary, the Park would initiate a Wildland Fire Situation Analysis (WFSA) and coordinate extended attack support with the Zion Fire Management Officer. Richfield Interagency Dispatch Center would be contacted and established as the central ordering point for further support. For fires near or threatening the Park, the Incident Command Post (ICP) may be located at the Park headquarters.

b. Wildland Fire Situation Analysis (WFSA)

When an incident has exceeded initial attack capabilities, the Chief Ranger would prepare a WFSA, with assistance from the other fire managers. The WFSA is used to develop alternative strategies and select the AMR for suppression of escaped fires and the evaluation of the net effect of each of these alternatives. Estimated costs and their apportionment may be addressed on a case- by- case basis. The Superintendent will be the approving authority for the document.

Threshold conditions triggering a WFSA are as follows:

- When initial attack suppression response fails within the first burning period.
- Fire is projected to leave the Park's jurisdiction and it is anticipated that initial attack may not be successful.
- Fire is projected to be beyond the capability of local fire management resources.

c. Complexity Decision Process

This process is a guideline that is used by the Superintendent and IC to determine what type of management is needed for a particular incident (see Red Book). This analysis guides the selection of a higher command level. The actual ordering of supplemental resources will be done through coordination with the Richfield Interagency Dispatch Center.

d. Delegation of Authority (DOA)

Before turning over management of a fire, a Delegation of Authority is written by the Superintendent to the out of park Incident Commander or to an Incident Management Team IC giving him/her the authority over the management of the wildland fire according to predetermined strategies and appropriate methods. This letter usually addresses the Operational Objectives, the WFSA selected alternative, limitations and constraints as well as any other resource issues that should be identified.

6. Minimum Suppression Tactics (MIST)

The Park will use MIST guidelines before using tactics that will have a greater impact on resources. Safety of firefighters and/or public will not be compromised with the use of MIST. A summary of MIST tactics may be found in the Red Book.

7. Short and Long- Term Rehabilitation Guidelines

Often the impacts of fire suppression require some rehabilitation. Short- and long-term impact mitigation measures are outlined in Reference Manual RM- 18, DOI BAER Handbook, and Director's Order 18. Park guidelines for rehabilitation include the following:

- Minimum requirements shall guide actions to rehabilitate actual or potential damage from wildland fire.
- Rehabilitation of suppression damage will be addressed by the IC and resource advisors, specified in incident action plans, done as soon as possible, and paid by the wildland fire account.
- BAER plans will be prepared as necessary to specify long- term rehabilitation actions, submitted to the Intermountain Regional Fire and Aviation Office within five days following control of the fire.

8. Wildland Fire Records and Report Tracking

There are several records, reports, and documents that are required for wildland fire management in the NPS. Copies of all reports completed at the Park will be forwarded to the Zion NP Fire Management Office. The following is a list of required documentation and the positions of individuals responsible for ensuring their completion.

- Central Utah Interagency Cooperative Agreement – Chief Ranger with approval of Park Superintendent
- Wildland Fire Situation Analysis (WFSA) for escaped wildland fires - Chief Ranger
- WFIP for all wildland fire use candidate fires – Duty Officer and FUMA's.
- Delegation of Authority Letter for Incident Commander - Park Superintendent
- Agency Administrator's Briefing Form for turnover of fire to Type I or II Incident Management Team - Chief Ranger and Chief of Resource Management with approval of Park Superintendent
- Local Incident Commander Briefing Form (ICS 201) when fire is turned over to

Type I or II Incident Management Team – Incident Commander
- Individual Fire Occurrence Form (DI- 1202) for all individual wildland fires, copy to Zion NP FMO and Utah State FMO - Chief Ranger

Refer to RM- 18 and RM- 60 for listing of records and reports required by the NPS. Any WFSA must be submitted with the DI- 1202 to Zion NP. Zion NP Fire Management staff will provide guidance and support for report completions, as needed.

B. Wildland Fire Use

Wildland Fire Use is defined as the application of the appropriate management response to naturally ignited wildland fires to accomplish specific resource management objectives in predefined designated areas outlined in fire management plans. In areas where vegetation density is capable of carrying fire, the decision of how to manage the fire will depend on the circumstances. Portions of the Thousand Lakes, Dry Bench, and Wagonbox Mesa FMUs, which total about 10% of the Park, have the potential to carry fire in dense vegetation contiguous with high fuel areas on adjacent lands. Because of the lack of recorded fires in these areas, it is likely that most fires in these areas will be allowed to burn to prevent the build up of fuels over time. Such burns will be allowed in cooperation with the adjacent land management agencies and only when fire conditions are suitable. If conditions indicate a greater likelihood of a catastrophic fire, suppression will be used to reduce resource damage and fire spread to neighboring communities.

Wildland fire use (also referred to as fire use) is the management of unplanned wildland fires, such as lightning- ignited fires, to accomplish specific resource management objectives. Lightning- caused wildland fires will receive appropriate management responses that give consideration to values, hazards, and risks. Fire use is the preferred means for achieving resource management objectives in the FMUs where ecological values dominate considerations but potential exists for fires to spread off the Park.

Wildland fire use projects will be used within current and predicted weather/climatological parameters and associated fire behavior that ensure:

1. Fire stays within a delineated area defined in the Wildland Fire Implementation Plan (WFIP).
2. Vegetation changes are within an accepted ecological range of values for the affected ecosystem.
3. No identifiable threat will occur to significant historic or cultural resources.
4. No identifiable threat will occur to life or private property.
5. Cooperation with state or federal air quality guidelines for particulate matter.
6. Concurrence of NPS regional staff during national preparedness level 4 and NPS national staff concurrence at preparedness level 5.

Procedures to ensure the results listed above:

1. Monitor weather and associated fire danger along with climatological comparisons to historical averages and past, known fire years in the area.
2. Consult with Park archeologists and natural resource managers.
3. Consult with cooperators on their fire management activity to gauge effects of total fire load on region.
4. Assign sufficient wildland firefighting resources to manage a fire use project. The minimum needed to implement a WFU fire is an ICT4 that has previous experience with the WFIP and WFU incidents. Operational and logistical resources for implementation must also be considered, as well as managers and decision- makers.

All fire management activities in the Park will rely on tactics that minimize resource damage while maintaining the safety of the public, firefighters, and other personnel. A summary of Minimum Impact Suppression Tactics may be found in the Red Book.

1. Initial Response Actions

All wildland fires will be assessed through the appropriate level of WFIP analysis and the appropriate management response will be chosen. The procedures that will be followed are outlined in the Wildland Fire Use Policy Implementation Procedures Reference Guide (Appendix L). Assessment includes data gathering and situation analysis (i.e. internal and external values which are enhanced or require protection, management objectives, safety, climatology and weather, fuel conditions, and fire behavior). The appropriate management response ranges from monitoring with minimal on- the-ground disturbance to intense suppression actions on some perimeters of the fire. The response will vary from fire to fire and even along the perimeter of a fire.

When a fire is reported, the Park will take the following actions:

- **Locate the fire**

- **Size- up and determine cause**

- **Complete a Wildland Fire Implementation Plan (WFIP) Stage I analysis** to determine the appropriate management response within eight hours after fire confirmation. Wildland fire use requires completion of a WFIP by a Unit duty officer at the minimum level of a non- complex WFU incident and then to have an ICT4 to implement the WFIP. Because the Park typically does not have ICT4 personnel with these qualifications, we will coordinate development of the WFIP with qualified personnel at the Zion or with the Richfield Interagency Fire Center.

  •Decision criteria and risk factors to consider in the Stage I analysis are outlined in pages 5- 25 of the Wildland Fire Use Implementation Procedures Reference Guide

(Appendix L). Parameters requiring in- depth analysis include: off- site impact of air quality, seasonal fire danger/drought and its relation to fire spread (including chances of fire spreading off- park onto other jurisdictions), wildland fire activity on neighboring lands, availability of resources, on- site impacts to cultural and natural resources, and threats to human life. If it is determined that the fire can be managed within the above constraints, the ignition may be appropriate to manage as a fire use project.

• **Request approval** in the go/no- go process from the State of Utah, Utah Air Quality Board to manage the fire as a fire use project. Per a Memorandum of Understanding between the State of Utah, Utah Air Quality Board (UAQB) and the NPS, the Park will contact the Utah Smoke Manager for approval before a fire is managed for fire use.

• **Choose the appropriate management response** based on the prior Stage I analysis. The decision may be made to manage the fire for resource benefit because the agency administrator found the potential for complexity, climatology, projected fire behavior, natural and cultural resource effects, and relative risk indicators to be acceptable. The Superintendent needs to sign the initial Stage I, but may delegate periodic assessment as the complexity determines.

• **Implement the appropriate management response.** For fire use projects this may vary from periodic aerial reconnaissance to on- scene fire monitoring. If the management complexity of the fire exceeds the capabilities of local resources, the Park will seek assistance from the Zion FMO or Richfield Interagency Fire Center. If the AMR is a decision to suppress the fire, then a justification in writing is required at the end of the Stage I.

• **Notify the public about the chosen management response.** Use contact lists and communication methods from Standard Operating Procedures: Fire and Fuels Information. Include regular information about project logistics, location, and objectives, as well as appropriate smoke information and recommendations.

• **Continue to reassess the fire situation.** During a fire use project the Park must perform periodic fire assessments. The superintendent must continually validate that the fire is managed appropriately and will assess if there is a need for a more detailed Stage II or III WFIP analysis, or if the situation warrants, convert the fire to a wildland fire suppression action. The frequency of the periodic fire assessment will be indicated on the signature page of the 'Periodic First Assessment ' form prepared by the Chief Ranger attached to the WFIP. Signature frequency can range from daily (high complexity, high- risk fires) to weekly (low complexity, low risk fires). If the periodic assessment indicates that the fire can no longer be successfully managed for resource benefit, a Wildland Fire Situation Analysis (WFSA) will be prepared to analyze and document changes in fire management strategy. The WFSA format is also contained in

the Wildland and Prescribed Fire Management Policy Implementation Procedures Reference Guide (Addendum).

- **Manage the fire until declared out** according to monitoring intensity and frequency guidelines indicated in the WFIP. At the minimum, periodic ground or aerial reconnaissance will be used to reassess conditions and fire status. More in- depth monitoring may be necessary to ensure proper incident management if complexity or risk increases. Monitoring will include wind speed, wind direction, smoke plume rise and dispersal, temperature, humidity, fuel moisture, fire size, and fire behavior (rate of spread, direction of spread, intensity).

2. Post- fire Actions

- **Rehabilitation** will follow Minimum Impact Suppression Tactic Guidelines as outlined in the Fire and Aviation Management Operations Guide if on- the- ground actions are taken to check fire spread. In the event a fire covers large areas, has unnaturally severe effects on natural or cultural resources, or causes major impacts to the developed resources (i.e. trail system), a separate Burned Area Emergency Rehabilitation Plan will be developed by the Park's Resource Management Office and the Zion Fire Management Office, and approved by the Superintendent.

- **Assemble monitoring data** as part of the final fire package.

- **Review incident** when deemed appropriate by fire management staff or the Superintendent.

3. Staffing Needs and Responsibilities

Stage I through III analyses will be completed by the appropriate level of IC or Fire Use Manager with input from the Park staff. Additional Park staff serving as subject matter experts will be involved in planning as conditions, issues, and fire location dictate. Personnel that may be needed include rangers, archeologist, wildlife biologist, roads and trails supervisor, facility manager, and information and education specialist. Fire complexity and risk will determine staffing needs. All qualified personnel identified in the individual WFIP will be available to complete their identified tasks. Fire monitors can be requested through the Richfield Interagency Fire Center.

All fire use projects will be managed according to the Wildland Fire Use implementation Procedures Reference Guide, April 2005 (see Appendix L).

4. Documentation and Cost Tracking

A fire folder will be maintained for every fire that occurs on the park. The fire folder will contain copies of all documents pertaining to the fire including: all planning documents (WFIPs, WFSAs, and amendments for either), delegations of authority, monitoring data and summary reports, revalidation and certification documents, fire

time reports, maps, photos, and DI- 1202. The Department of the Interior Individual Fire Occurrence Form (DI- 1202) is the basic document used by the National Interagency Fire Center (NIFC) to document a fire occurrence. All expenditures (personnel, aircraft, supplies, and equipment) will be tracked and reported according to the standards established in the DI- 1202. All fire use projects will have an appropriate fire management accounting code.

It will be the responsibility of the Chief Ranger, or the designated incident commander on the fire to ensure fire report completion. The report is a valuable tool as it provides an historical record of the fire regime for the Park.

C. Prescribed Fire

A prescribed fire is any fire ignited by management action to meet specific objectives. Although a program of using prescribed fire at Capitol Reef National Park is not considered in this plan, individual burns may be needed in the future for protection of cultural resources, especially historic scene restoration and maintenance, hazard fuel reduction, and natural resource objectives. If a determination is made that a specific prescribed fire is required, that prescribed fire will be subject to the requirements of NEPA, NHPA, and other applicable planning and compliance.

Fire may be used in a non- wildland fuel environment (parking lot, storage yard, gravel pit, or other area cleared of vegetation) to dispose of vegetative debris deemed unfeasible or impractical to remove mechanically. The Park will follow all applicable guidance and regulations when using fire for debris disposal. NPS guidance on debris burning is found in RM- 18. The debris may be generated from orchard maintenance activities, construction activities, removal of hazard or invasive trees, or discarded non-hazardous building materials. Such debris burned in a non- wildland environment does not require a prescribed fire burn plan but, to minimize safety risks, will need approval of fire personnel and presence of a structural fire crew. Any material being burned for debris disposal must be classified as permissible to burn under applicable federal, state, tribal, and local regulations. While debris burning is permitted under the conditions described, it will generally not be used. Debris will be reduced, when possible by chipping, Debris that needs disposal will typically be hauled to an approved landfill. Debris burned in a wildland environment requires a prescribed fire burn plan and the previously described compliance.

D. Non- Fire Fuel Applications

Although a program of using mechanical fuel reduction at Capitol Reef National Park is not considered in this Plan, it may be needed in the future for objectives such as protection of cultural resources, historic district restoration and maintenance, protection of private property near the Park boundaries, invasive species control, or protection of natural resources. If a determination is made that a specific mechanical fuel reduction project is required, that project will be subject to the requirements of

NEPA, NHPA, and other applicable planning and compliance. If needed and planned, fuels treatments will be added to this FMP in the annual update with addition of a 5 year fuels treatment plan added as a new appendix.

E. Emergency Rehabilitation and Restoration

Emergency rehabilitation involves short- term actions to stabilize a burned area to prevent soil erosion or to mitigate the effects of suppression activities. Immediate actions to prevent further degradation or loss, or to ensure safety, are usually performed before resources are demobilized from an incident. Such actions typically involve fireline trash pick- up, restoring soil and debris as needed to scraped fire lines, flush-cutting stumps, dragging brush and vegetation debris onto firelines, and installing water bars on slopes as needed to control erosion. Rehabilitation will be identified well before demobilization begins to make effective use of fire personnel and equipment. Fireline rehabilitation costs will be charged to the emergency fire account.

Rehabilitation actions may include obliterating fire lines, suppression erosion control, and scattering brush piles and debris. Generally, burned areas will not be reseeded unless necessary for immediate soil stabilization. Residual seed and sprouting from surviving rootstocks will provide natural rehabilitation. Boundary fences damaged by suppression will be replaced as needed. Suppression actions rehabilitation will begin as soon as possible, even before the fire is out.

Post- incident actions must be specified in a rehabilitation plan approved by the IMR Fire and Aviation Management Office. Assistance will be requested from the Zion FMO should this be needed. Rehabilitation needs should be considered for each fire, and plans prepared for those fires requiring complex rehabilitation needs. Generally, at Capitol Reef, given the limited size and sparseness of the natural fuels, species will be allowed to regenerate naturally in a burned area. Seeding of native grass species in areas burned by wildfire will only be considered when normal use impacts may modify natural succession or cause severe soil erosion or when exotic species are expected to dominate natural systems unless such seeding is done. Seeding of areas burned by prescribed fire will be considered particularly where probability of achieving a burn objective is enhanced by grass competition resulting from such seeding. If re-vegetation is deemed necessary for rehabilitation of a burned area, seeds of native species harvested locally shall be used exclusively. Funding of direct costs of rehabilitation is through establishment of a Burned Area Rehabilitation account. Requests for an emergency account number must be made to the Intermountain Regional Office Burned Area Rehabilitation Coordinator and include description of activity, cost, starting and ending dates. Verbal requests must be followed up in writing.

Because of the very limited personnel availability at Capitol Reef, a Burned Area Rehabilitation Team may be requested from the Intermountain Regional Office Burned Area Rehabilitation Coordinator, (Regional Fire Ecologist), in the case of a large

suppression fire.

V. Organizational and Budgetary Parameters

A. Organizational Structure of the Park's Wildland Fire Management Program

Capitol Reef National Park does not have a formal fire management organization. The NPS Utah Group Area FMO, who is duty stationed at Zion National Park, provides oversight and assistance to Capitol Reef and other parks in the Group Area as described in this plan. The Superintendent delegates wildland fire suppression activities to the Chief Ranger and fire planning activities to the Chief Of Resource Management & Science. Through years of experience, we have learned that the extremely small number of Capitol Reef staff members does not provide for the luxury of having a certified Incident Commander Type 4 on the staff. Thus, Capitol Reef National Park must rely upon any agreements with cooperating federal, state, and local agencies for assistance needed to suppress larger wildland fires, or to fully engage in WFU management since there are no ICT4's or FUMA's on staff.

At Capitol Reef, all Park employees have a responsibility to support wildland fire operations as the situation demands, but only those personnel who meet NWCG 310- 1 and RM- 18 agency standards of training, experience, and fitness for the position will be actively involved in fire suppression activities. Individuals, who are not red- carded, will not participate in fire suppression but can serve in logistical support roles.

B. Fire Management and Responsibilities

A Fire Analysis Committee consisting of the Chief Ranger, Wildland Fire Coordinator, and Chief of Resource Management & Science will meet as needed to develop, implement, critique, and review the fire management program. The Committee does not have decision authority but it makes recommendations on management to the superintendent. Other expert staff will be involved or participate as needed.

The **Superintendent** is responsible to manage wildland fire programs according to Department policy, DO- 18, and policy updates. Major wildland fire duties include:

- Ensures that a wildland fire management program appropriate to Capitol Reef National Park (based upon applicable policy, regulations, laws, and objectives) is planned and implemented, integrated with other programs and disciplines, and adequately supported.
- Annually reviews the Management Performance Requirements for Fire Operations to insure compliance with Agency Administrator responsibilities, (see 2005 Redbook, page 02- 06).
- Approves the Wildland Fire Management Plan and annual updates, inter- and intra- agency agreements and operating plans, and delegations of authority, and selects the action alternative of the Wildland Fire Situation Analysis (WFSA) and the approved response action in WFIP's.
- Makes public and media contacts pertaining to wildland fire operations and

works to ensure cooperative relations with local fire organizations and neighbors.
- Provides direction to all incident commanders, and written delegation of authority to all IC's from outside the park. May designate an agency representative for to interact/coordinate regularly with IC's.
- Delegates specific authority to Chief Ranger and Wildland Fire Coordinator for mobilizing equipment and personnel.
- When needed, coordinates with adjacent land managers to establish a unified command to develop objectives and priorities on fires involving multiple ownership or jurisdiction.
- Approves any fire- related use restrictions.

The **Chief Ranger** oversees the fire management program and ensures its coordination with other emergency services and resource protection programs. The main duties of the position related to wildland fire include:

- Ensure preparation of Central Utah Interagency Cooperative Agreement for approval by Park Superintendent.
- Prepare Wildland Fire Situation Analysis (WFSA) for escaped wildland fires and WFIP's for all lightning fires within areas of park where WFU is allowed..
- Prepare Agency Administrator's Briefing Form for turnover of fire to Type I or II Incident Management Team, or to Type III IC's in cooperation with Chief of Resource Management.
- Prepare Individual Fire Occurrence Form (DI- 1202) for all individual wildland fires and send copy to Zion NP FMO and Utah State FMO.
- Provide for development of fire qualifications for selected employees and make them available during on going Park fires.
- Chair the Fire Analysis Committee, to review situations as needed.
- Assist in investigation and provide enforcement for all person- caused fires.
- Recommend and implement any fire- related use restrictions.
- Develop and update short and long- range fire management plans as needed.
- Manage budgets for both allocated and emergency fire accounts.
- Monitor visitor safety and implement evacuation as necessary.
- Conduct reviews of Park fires as specified in this plan.
- Call Fire Analysis Committee to meet as needed. Prepare WFSAs after developing alternatives and estimating probability of success.
- Develop personnel qualified to implement programs or scale back programs to what can be accomplished.
- Monitor readiness and fire prevention activities as appropriate to fire conditions and assure that appropriate action is taken on wildland fires.
- Ensure operational safety briefings are conducted for all fire personnel, as specified in this plan.

- Serves as the agency representative for the Incident Command System (ICS) organization in the Park, develops WFSAs for in- park fires, if needed, and serves in an ICS position, as qualified.
- Acts as Unit Duty Officer in development of stage I WFIP's per the WFU IPRG.
- Draft delegations of authority for the Superintendent's signature, as needed.
- Maintains readiness of wildland fire equipment and personnel appropriate to fire danger.
- Coordinates weather and fuel moisture data collection.

The **Chief, Division of Resource Management & Science** directs the Park's natural and cultural resource management programs and interfaces directly with the Zion FMO and Chief Ranger regarding application of managed fire. Major duties related to wildland fire include:

- Provide for development of fire qualifications for selected employees and make them available during on going Park fires. Insures a pool of red carded, line qualified resource advisors is available for fire operations each year.
- Develop vegetation management objectives for the Park.
- Prepare Agency Administrator's Briefing Form for turnover of fire to Type I or II Incident Management Team in cooperation with Chief Ranger.
- Review fire plans for resource management objectives.
- Identify sensitive resources needing protection during initial attack and extended fire activities.
- Monitor post- burn fire effects.
- As a member of the Fire Analysis Committee, analyze and estimate impacts of WFIP and WFSA proposed strategy alternatives on Park resources.

The **Chief, Division of Interpretation** manages visitor information programs and services, including operating the visitor center, guided walks, and daily programs. The main duties of the position related to fire management are:

- Provide for development of fire qualifications for selected employees and make them available during on going Park fires.
- Provide assistance in fire prevention and public information and education as described in appropriate sections of this plan.
- Incorporate fire prevention messages into interpretive programs appropriate to fire danger conditions.
- Perform duties of Park Public Information Officer including timely listing of park fires on the FIRENEWS website.

The **Facility Manager** manages the Park maintenance division. The main duties of this position related to fire management are:

- Provide for development of fire qualifications for selected employees and make them available during on going Park fires.
- Implement/assist in closures of roads, trails, and other facilities.
- Maintain fire vehicles, as needed.
- Coordinates any mechanical defensible space treatments that may be needed around park infrastructure.
- Coordinates park "debris burning" according to NPS policy.

The **Chief, Division of Administration** manages Park administrative functions including personnel, procurement, budget, and phone and computer support. The main duties of the position related to fire management are:

- Provide for development of fire qualifications for selected employees and make them available during on going Park fires.
- Serve as timekeeper, travel, and budget clerk for fire management.
- Provide emergency procurement and administrative assistance for on going Park fires.
- Assists in fire account tracking services on park fires.

The **Wildland Fire Coordinator** has direct responsibility to plan and implement the Park's pre- suppression, suppression, and prescribed fire activities. This position will be within the Division of Visitor and Resource Protection and will be a red carded individual. The major duties are:

- Ensure fire equipment readiness during fire season.
- Oversee initial attack fire operations and, within delegated authority, arrange for additional equipment, personnel, and logistical support as needed. Inform the Chief Ranger as increasing needs are anticipated. Insures all park personnel responding to park fires have the appropriate level NWCG red card certification.
- Involve staff in fire prevention activities.
- Coordinate off- park dispatches of Park personnel
- Inform and consult with Zion FMO when a Park fire reaches 10 acres, when damage to property occurs, or if injury or death occurs.
- Coordinate readiness of facilities including the fire cache and weather stations.
- Monitor fire danger conditions, implement step- up plan activities, and recommend appropriate use restrictions.
- Ensure completion of fire reports and other administrative records.
- Serve as liaison with other agencies regarding wildland fire activities.
- Prepare fire reports, route for signature and maintain fire records, including fire reports, dispatch fire reports, weather information, resource orders, and situation and fire reports as needed.

- Prior to fire season, update lists of contact phone numbers.
- Assist in fire procurement and dispatch operations, as needed.
- Assist in gathering and displaying information regarding Park resources for fire management activities.
- Provide communications with field fire personnel, as needed.
- Coordinates with Interagency Partners in the Fire Program Analysis process.
- Maintain list of key wildfire contacts and inventory of fire cache.

The **Zion Fire Management Officer** provides guidance and technical expertise to the Park on fire related matters. Specific duties related to the Capitol Reef fire program are:

- Assists in the development and implementation of prevention, suppression, rehabilitation, and aviation programs through site visits, program reviews, inspections, budget formulation, and training.
- Participates in fire management planning and assists in coordination of reports and correspondence and the preparation and review of fire management plans.
- Assists in coordinating mobilization and information with the Richfield Interagency Fire Center.
- Coordinates and/or conducts wildland fire training to meet Park needs.
- Coordinates technical assistance of Utah group fire personnel or interagency personnel to meet fire management needs at the Park.
- Communicates with the Park Chief Ranger and Chief of Resource Management on issues and concerns.
- Manages fire qualifications/training records in the Wildland Fire Computer System, including input of records and updates and issues incident qualification cards.
- Provides technical assistance with computer inputs into national fire databases such as NFPORS, which requires input from all WFU fires over 1 acre in size.

Incident Commanders use strategies as directed by the Superintendent through the delegation of authority and WFSA, when applicable, to implement selected tactical objectives on a particular incident. A specific Limited Delegation of Authority will be provided to each Incident Commander from outside the park prior to assuming responsibility for an incident. Major duties of the Incident Commander are given in NWCG Fireline Handbook, including:

- Brief subordinates, direct their actions, and provide work tools.
- Ensure that safety standards identified in the Fire Orders, the Watch Out Situations, and agency policies are followed at all times.
- Personally scout and communicate with others to be knowledgeable of fire conditions, fire weather, tactical progress, safety concerns and hazards, condition of personnel, and needs for additional resources.

- Order resources to implement the management objectives for the fire.
- Inform Richfield Interagency Fire Center of current situation and expected needs.
- Coordinate mobilization and demobilization with Richfield Interagency Fire Center and the Wildland Fire Coordinator.
- Perform administrative duties; i.e., approving work hours, completing fire reports for command period, maintaining property accountability, providing or obtaining medical treatment, and evaluating performance of subordinates.
- Assure aviation safety is maintained to the highest standards.

Initial attack teams will consist of experienced firefighters with qualifications required by established regulations and policies. Teams will be prepared and equipped with hand and power tools, as needed, and will be dispatched with a day's supply of food and water, so they can continue work for 24 hours without additional support. On most fires, initial attack teams will consist of at least three persons.

C. FIREPRO Funding

FIREPRO is the mechanism for funding requests and resource allocations for the NPS fire management program. FIREPRO funds are provided through the Department of the Interior firefighting account, and are no- year, non- ONPS funds distributed to each Park by the Fire Program Management Center, through the Washington Office budget office. The Zion Fire Management Officer submits FIREPRO funding requests for Capitol Reef. All FIREPRO funding activities must comply with instructions in RM- 18 and the FIREPRO User's Guide.

D. Interagency Coordination

Interagency coordination and cooperation with neighboring agencies and the State of Utah is integral to successful implementation of the fire management program at the Park. Most wildland fires will require external support by interagency cooperators and/or other NPS units. Since an ICT4 is the minimum qualification needed to implement WFU fires, partner support is critical for the Park to implement that strategy.

Per the Annual Operating Plan for Fire Management (AOP) between the U.S. Forest Service, the Bureau of Land Management, National Park Service, U.S. Fish and Wildlife Service, Bureau of Indian Affairs, and the State of Utah (Appendix E), neighboring agencies, upon request, will provide assistance with emergency fire suppression. Reimbursement for assistance will be provided as specified in the AOP. Use of aircraft on a state fire requires prior approval of the Area Forester, Regional Manager, or higher authority. Orders for interagency support for in- park fires go to the Richfield Interagency Fire Center. Capitol Reef participates in an interagency Type II crew program, coordinated through the Fishlake Forest. Crews are drawn from local federal agencies.

The AOP also delineates mutual threat zones, policies, standards, and procedures for wildland fire management activities. It addresses arson investigations, public information media releases, reports, special conditions for land management units, restrictions, closures, etc. Upon request, each unit will provide the other with fire reports, incident reports, and other pertinent records related to the agreement.

E. Key Wildland Fire Contacts

A list of key contacts for wildland fire operations (Appendix K) is maintained by the Chief Ranger.

VI. Fire Research

National Park Service Management Policies call for restoring and protecting natural processes and natural resources in parks. The Capitol Reef Resource Management Plan describes the need to identify, evaluate, monitor, and resolve the resource management issues and threats that face the Park. It also states that the Park needs to inventory all significant Park resources, continuously assess their condition, and develop research programs to investigate inadequately understood processes and trends. Although fire is not common in the Park, research into fire effects and fire regimes is still a valuable piece of information necessary to accomplish the tasks identified in the RMP.

Vegetation communities in the Park have been altered by man's activities in specific locations and more generally by livestock grazing. In order to determine appropriate actions to restore natural conditions, an understanding of how the ecosystem functions and how it has changed is required. The role of fire as a natural process is vital to understanding ecosystem function. Research information about the long- term history of fire specific to these sparsely vegetated communities is needed.

Implementation of the FMP is not contingent upon completion of research of the local fire regime and fire effects on vegetation. In fact, information regarding primary and secondary fire effects in almost every ecosystem is incomplete. This absence of information does not constrain the implementation of a fire program at Capitol Reef National Park. Some scientific information already exists regarding effects of fire and fire exclusion for a few of the plant associations that occur in the Park. This information can be found on the Fire Effects Information System (FEIS 2004) and in scientific journals. Although this research was accomplished in other geographic areas, the results may be applicable to the Park (taking care to identify site differences and any subtle differences in effects that those differences might cause). As new information becomes available fire- related resource management objectives can be refined in an adaptive management style.

Fire research has limited funding within the NPS. Opportunities exist for making requests for research funding may be made through the Joint Fire Sciences Group Program (JFSP 2004). Additionally, the USDA Rocky Mountain Fire Sciences Laboratory located in Missoula, Montana has conducted fire effects research in cooperation with other NPS locations and maintains a staff of scientists specializing in this discipline. Other opportunities exist under the Cooperative Ecosystem Study Units (CESU) and NPS requests (Recreation Fee Demonstration Program), Project Management Information System (PMIS), and Natural Resource Challenge.

VII. Monitoring

In conjunction with the Park's fire program, a fire effects monitoring program is valuable to help accomplish management goals. Fire management specialists utilize a variety of monitoring data to better understand the effects of fire on vegetation. Some data comes directly from monitoring effects of fire management activities on vegetation, while other data displays more general vegetation information. Because of the lack of fires or evidence of fires on the Park, we have no specific monitoring program to specifically analyze fire effects.

Baseline information on climate, vegetation trends, land use, and other ecosystem studies collected by the Northern Colorado Plateau Inventory and Monitoring Network will aid in gathering long- term data about fire effects. Park specific studies monitoring rare plants will also help to evaluate impacts to those species caused by a fire that happens to occur within their habitat. Long- term monitoring of birds along Breeding Bird Survey routes and at a Monitoring Avian Productivity and Survivorship plot would add in evaluating fire effects should a fire occur near those areas.

VIII. Public Safety

The first priority and consideration in any fire management action is firefighter and public safety. Managing a fire management program is one of the highest risk operations that a land management agency accomplishes. The primary safety- related issue in fire management is the danger to human life. High rates of fire spread and high fire intensities can occur rapidly and without notice during any fire.

High- risk areas where the public or wildland firefighters are in danger need to be identified so appropriate safety precautions can be taken. The safety of all people and developments in the area are the foremost concern of the Incident Commander and/or prescribed fire burn boss. Escape routes and safety zones will be identified prior to deploying personnel. In extreme situations, the Superintendent may close the Park and order its evacuation.

Because wildfires are dynamic and can be hazardous, they must be given very high priority during certain critical conditions. Employees responsible for and involved in any wildland fire management must always consider the safety of human life above all other values. Being able to provide a consistent and accurate evaluation of fire behavior is the basis for contingency plans, contacts, and briefings that ensure public and personnel safety.

A. Public Safety Issues

The following is a list of public safety issues and concerns at Capitol Reef:

- Most visitor use is concentrated on the roads through the developed areas, campgrounds, and day use areas in Fruita. A fire in Fruita has some potential to become an urban interface fire, with potential for loss of life due to vehicle accidents and the complexities of evacuating large numbers of people and vehicles in areas with one- way in and out access. In the month of August 1996, there were over 99,664 visitors in the Park.
- There is overnight use of the Park's backcountry. There are no communications to the backcountry camping sites. Notification to campers of a threat would have to be made by foot, by horseback, or by air.
- Some visitors approach a fire out of curiosity and attempted to suppress it. The public generally does not perceive a threat to their safety from low intensity fires in national parks.
- Certain areas will be closed to use when the risks to visitors are too high or there are not enough personnel to handle the situation any other way.
- Any time human life may be endangered, all necessary means will be taken to warn or evacuate visitors and neighboring landowners and users.
- Visitors may ignore warnings or be unaware of potential dangers and wander into areas where fire is still active or where there are hazards from suppression activities such as tree falling.
- Smoke on roadways may create a vehicle visibility hazard from a fire burning

nearby or at night under light wind conditions. It could also occur on roadways outside the Park.

B. Public Safety Measures

The Wildland Fire Coordinator will inform the Chief Ranger and the Superintendent of all potentially hazardous fires in the Park. The Chief Ranger and the Superintendent will then coordinate public notification efforts within and outside the Park. The extent of public notice will depend on the specific fire situation. The following actions will be considered:

- If a fire disrupts travel along any highway in the Park, the initial attack incident commander, Wildland Fire Coordinator, or front country ranger will dispatch patrol rangers to stop or control traffic.
- If evacuation of an area is recommended, the Superintendent, Division Chief of Interpretation, and Chief Ranger will be informed immediately. If evacuation is not needed, but there is heavy smoke in the campgrounds, Park personnel will be sent to inform visitors of the situation and advise them of appropriate safety precautions.
- If a fire is projected to rapidly spread and threaten backcountry sites or trails where campers or hikers are known or strongly suspected to be, a Park employee will be dispatched to the area by best possible means to notify visitors of the danger. Such individuals will be knowledgeable of fire behavior and fire safety principles to be able to stay with visitors as long as needed to assist them to safety.
- As part of initial and continuing size- up, an incident commander will determine the proximity of the fire to any visitors or other land users, inform them of potential hazards, and aid in evacuation if needed. If life is threatened, and the parties do not cooperate, law enforcement assistance may be requested through dispatch.
- When needed, information on location, behavior, expected dangers, areas to avoid, and other precautions would be posted on Park bulletin boards, at the entrance station, and local post offices and businesses. Interpreters will be used to inform the public of dangers and to explain the positive role of fire in natural areas.
- When the risks from a wildland fire are high, precautionary signs will be posted on trails leading into the fire area. Trails, campsites, and day use sites will be closed if deemed necessary by the Fire Analysis committee, and approved by the Superintendent.
- Visitor use will be limited or prevented near wildland fires and nearby areas potentially affected. Rangers and interpreters will patrol the perimeters of management ignited prescribed fires to inform visitors and neighbors about the role of fire in a natural area, explain the risks of approaching too close to a fire, and enforce compliance of closures.
- A Status Summary for all fires burning over 24 hours will be provided to the Park

information officer. Information on fire activity will be broadcast on the Park radio as part of a morning report. The status summary will be distributed to all Park divisions on a daily basis.

- Expected impacts on off- park communities and roadways will be evaluated and information shared with the respective agencies. If needed, vehicular or air patrols will be used to monitor smoke plumes.
- News releases will be made to local media concerning the status of fires.
- The Wildland Fire Coordinator and Chief Ranger will notify the following nearby agencies, as appropriate, about Park fires: Wayne, Garfield, Emery and Sevier County Sheriffs and Fire Wardens, Towns of Torrey, Bicknell, Loa, Wayne and Garfield Health Department, Federal Aviation Administration - Cedar City Flight Station, Utah Highway Patrol, Utah State Forestry, Fishlake and Dixie National Forest, Hanksville and Escalante Districts of the Bureau of Land Management, and Richfield Interagency Fire Dispatch.
- Notice of closures due to fire activity will be posted at trailheads, campgrounds, and day use areas as necessary. Roads, trails, campgrounds, and other facilities will stay closed while hazard trees are removed. The public will be informed of hazards and appropriate safety precautions for hiking through areas after they have burned.

IX. Public Information and Education

The fire management program benefits from a well- informed public. Prior to fire season, public information would include fire prevention, potential fire danger, training, cooperator involvement, etc. During the fire season, the Park would inform visitors and local residents about the current fire danger, current fire activity, any fire restrictions, road/trail closures, etc.

Until recently, most federal agencies supported a public information policy that all fires be controlled quickly and completely. This philosophy was quite effectively communicated to the general public through advertising vehicles such as Smoky Bear. Preventing arson and property destruction is serious and it needs a powerful means of expression. However, an unintended result of that campaign was that the public and agency fire managers began to think about fires in an unsophisticated way; i.e., that fires are "bad" and all of them must be controlled. The effectiveness of that public education program worked against the recent science based fire policies that support some fire as a natural part of ecosystem dynamics. Although fires are a natural occurrence in vegetation communities, a fire at non- natural intervals or at a time when natural ignition sources are usually not present can adversely affect the ecosystem. So fires can be good or they can be bad for native plant communities. Because of these seemly contradictory ideas, disseminating information to the general public, Park neighbors, nearby communities, and Park employees about the natural role of fire in ecosystems at Capitol Reef is necessary to build and maintain public support for fire programs.

The Park fire management personnel, with assistance from the Divisions of Interpretation and Resource Management & Science, will take the lead in developing materials that provide factual, straightforward information about both the general role of fire in the communities and about specific projects being conducted in the Park. Material handed out or presented in programs will be geared to the specific audiences.

These guidelines will apply, depending on the situation, to the fire program in general or to individual wildfires, or management ignited prescribed fires.

- The Wildland Fire Coordinator will present an orientation to seasonal employees, which provides information about Park fire management programs. The seasonal employees comprise an integral component of public education as they disperse information about current fire danger, give fire prevention messages, and interpret prescribed fire.
- Handouts and programs explaining fire management will be jointly developed by the interpretive and fire management staffs.
- The Superintendent and Chief Ranger will be informed by the Wildland Fire Coordinator of the status of fires in or near the Park and any pertinent management actions. To effectively answer visitor questions, fee collectors, backcountry and patrol rangers will be advised of the status of ongoing fires on a

daily basis. The visitor center employees and campground hosts will also be kept current on fire situations.

- Appropriate signing or notices will be used to inform the public about on- going fires, area or trail closures, smoke, or other special situations. Signs or notices will be placed at the entrance stations, at the visitor center, lodge, local businesses, and at affected trail heads, campgrounds, and other areas as needed.
- Employees may be stationed at appropriate turnouts or viewpoints to explain the situation when fire or smoke is visible near these places. A temporary bulletin board may serve as an alternative.
- The ecological concepts for natural and prescribed fire management will be incorporated into handouts, books about Park resources, and exhibits. Handouts explaining the fire management programs of NPS and Capitol Reef will be prepared and periodically updated. When fires occur, these materials will be available for distribution at entrance stations, the visitor center, and by all field personnel during their work as they make informal contacts.
- The goals and concepts of wildland fire management programs will be incorporated into interpretative programs, walks, slide and/or video programs, the Park newspaper, other Park literature, and exhibits. Particular attention will be given to inclusion in programs and walks when smoke is visible from the visitor center, the lodge, and/or local communities.
- During ongoing fires, news releases will be written for local newspapers, radio, and television stations. Media information requests will be directed to the Superintendent's office or a designated Information Officer to ensure consistent and accurate information.
- Neighboring land management agencies, mayors, and city and county public safety officials will be provided information about ongoing fires, especially if there is a moderate to high risk of an escaped fire. Concerned land owners, business operators or neighboring residents will be regularly informed by ranger staff as to fire status and suppression/monitoring actions. Making contact at the onset with neighbors and adjoining agencies may stem controversy and facilitate preparedness for assistance in suppression or evacuation, if needed.
- Public involvement will be sought when major changes are made to the Fire Management Plan. The Park will notify neighbors and local agencies, communities, and news media of changes and their expected effects. Every effort will be made to gain public understanding and support.
- Articles may be written about Capitol Reef's fire management program for Park, local, state, regional, and national periodicals.
- It will be recommended to the Capitol Reef Natural History Association to make relevant, factually accurate publications that address fire's role in natural areas available at its outlets.

X. Protection of Sensitive Resources

A. Cultural Resources

As stated earlier, about 5% of the Park has been inventoried and this data shows that Capitol Reef has an average site density of one site for approximately every 40 acres of land. No archeological sites have as yet been identified as requiring any special protection from wildfire, although fire suppression activities (i.e. line construction) would likely result in unwanted disturbance of these areas. The appropriate management response policy for the majority of the Park will allow us to protect these sites from potentially damaging suppression actions. Because of the sensitivity of the archeological sites, no fire suppression or other vehicles will be driven off road within Capitol Reef without the approval of the Superintendent. It is possible that sites requiring fire protection and suppression may be identified in the future. Exact locations of archeological sites are maintained on GIS and are available by contacting the Division of Resource Management and Science. During the Initial Fire Assessment, cultural resource advisors will identify any sensitive resources and any restrictions.

There are four locations within the Greater Capitol Reef FMU where sensitive cultural resources occur and require suppression activities to ensure their protection. The Fruita Rural Historic District, which includes the headquarters area, is a major concern in this regard. The district includes numerous historic buildings, historic orchards, and other structures, including wood frame homes and barns. Many of these buildings and structures are used for staff and/or interpretive purposes, which increases the likelihood of fire occurring there. In the backcountry, three historic sites have been identified as needing special protection from wildfire. The first is the Lesley Morrell Line Cabin and Corral, in the Park's Cathedral District. The cabin dates to the 1920's and is listed on the National Register of Historic Places. The second is The Post corral, which dates to 1950 and is located in the Park's Waterpocket District. The large corral is located at a popular backcounty trailhead, and is currently being used as an equestrian campground. The third is the Duchess Mine in the Waterpocket District. This site dates from the 1950's uranium mining days and may be eligible for National Register listing. Fire suppression to protect these resources would occur within the Fruita Rural Historic District and within ½ mile of the three backcountry sites. When suppression actions are used in these areas, minimum impact strategies will be used to also protect archeological resources within these ½ mile buffers. The Park will protect historic structures threatened by wildland fire by wrapping fire shelter material around the structures or using structural foam, if it can be done safely.

B. Natural Resources

Although activities carried out under this FMP are generally expected to be beneficial to listed species, activities such as fire management projects or emergency fire suppression could, potentially, adversely affect listed species. Therefore, the Park will not use prescribed fire or hazard fuel reduction. If, in the future, we determine that prescribed

burning or hazard fuel reduction is necessary to accomplish the goals of our fire program, the Park would complete the necessary compliance and public review as a separate document. Prior to any proposed future fire related project, the Park will determine if listed species are present in the proposed project area and will consult with the USFWS under Section 7 of the Act, as appropriate. This process will assure that any project activities carried out for fire management will not adversely affect listed species or designated critical habitat.

Emergency fire suppression activities are less predictable. Since prescribed burning and mechanical clearing will not be used for fire management in the Park, the greatest concern for potential damage to listed species and their habitat are fire suppression activities. Where suppression is deemed appropriate to prevent catastrophic fire (e.g., to protect human life or sensitive resources) this FMP will implement measures to mitigate any potential impacts to listed species or to designated critical habitat. Park resource management staff will serve as advisors from the very start of a fire to assure that fire operations personnel are familiar with Park resources and the potential for damage to those resources caused by fire suppression actions. When a fire is first reported, Park staff will determine through Park records and emergency fire consultation with the USFWS whether sensitive resources, such as listed species, are present in the area of the fire. As discussed earlier when fire suppression is proposed, no suppression actions will be allowed within 100 yards of populations of listed plant species or within Primary Activity Centers for Mexican spotted owl. Minimum impact suppression tactics will be employed at all times to protect resources and the Park will monitor the effects of fire on Park resources.

In about 90% of the Park, the appropriate management response will be to monitor the fire without suppression actions. This type of response will help ensure that impacts to listed species will be minimized. The largest area identified for suppression activities is the Fruita Rural Historic District in the Greater Capitol Reef FMU and no listed species are known to occur in this area. The three additional historic sites will have suppression within a half- mile area surrounding the site and also do not contain listed species. Within the other four FMUs, there are areas of dense vegetation that could carry a fire onto adjacent lands but these areas do not contain listed species. Much of these areas are within designated critical habitat of the Mexican spotted owl, but they lack the primary constituent elements of critical habitat.

Park staff reviewed the list of federally listed or candidate species that may occur in the area and determined that habitat conditions are suitable for thirteen species, which have already been documented in the Park (Table 5). The Park has had an extensive rare plant inventory program since 1996 and is confident that the distribution and habitat preferences for its listed species are well known and documented. In addition, Mexican spotted owl inventory and research work in the early 1990's found all nesting and roosting areas within the Park.

Table 5. Federally Listed Species at Capitol Reef National Park

Plants

Barneby reed- mustard	(*Schoencrombe barnebyi*)	Endangered
Jones Cycladenia	(*Cycladenia humilis var. jonesii*)	Threatened
Last Chance townsendia	(*Townsendia aprica*)	Threatened
Maguire's daisy	(*Erigeron maguirei)*	Threatened
Ute's ladies- tresses	(*Spiranthes diluvialis*)	Threatened
Winkler cactus	(*Pediocactus winkleri*)	Threatened
San Raphael cactus	(*Pediocactus despainii)*	Endangered
Wrights fishhook cactus	(*Sclerocactus wrightiae)*	Endangered
Rabbit Valley Gilia	(*Aliciella cespitosa*)	Candidate

Animals

Mexican spotted owl	(*Strix occidentalis lucida)*	Threatened
Western yellow- billed cuckoo	*(Coccyzus americanus*)	Candidate
Southwestern willow flycatcher	(*Empidonax traillii extimus*)	Endangered
Bald eagle	(*Haliaeetus leucocephalus*)	Threatened

C. Park Infrastructure

Most of the Park's infrastructure is within the Fruita Rural Historic District already discussed under the cultural resource section. All fires that threaten buildings or utilities in this area will be suppressed. Two other Park areas with buildings are the Sleeping Rainbow Ranch at Pleasant Creek and the Peek- a- boo trailer along the Burr Trail. Neither of these sites is within a patch of vegetation that could carry a fire. If the structures themselves should catch fire, that fire would be suppressed in accordance with the Park's structural fire operation.

D. Air Quality and Smoke Management

Capitol Reef National Park is a Class I airshed as defined by the Clean Air Act, and is generally free of pollution, other than that from motor vehicles and wood burning in campfires and stoves. Local winds created by topography typically produce fairly strong ridgetop winds in the day and downslope winds at night. The strength of these winds depends on the degree of heating and cooling on any given day. The daytime winds tend to scour the plateau and canyons on a diurnal basis, resulting in generally excellent air quality locally. On occasion, area pollutants from Los Angeles, Salt Lake City, and the Pacific Northwest can affect air quality if strong, widespread inversions occur. Nighttime inversions are common during the summer and become strong during the fall.

NPS fire management activities which result in the discharge of air pollutants are subject to, and must comply with, all applicable Federal, state, and local air pollution control requirements, as specified in Section 118 of the Clean Air Act, as amended. In addition to

high concentrations of carbon monoxide and other gases nearby, fires can produce high concentrations of particulate matter less than 10 microns in diameter (PM10), which has known health risks.

Besides impacts on health, the other impact of smoke is on visibility. Most visitors to the Park are not local but come to Capitol Reef National Park from countries in Europe or Asia as well as through out the USA to view the spectacular architecture of nature. Mismanaging a fire so it produces excessive smoke may obscure visibility for a visitor on their once- in- a- lifetime trip to this area.

Fires in Capitol Reef will be managed to minimize impacts on populated areas such as the nearby communities. Movement of smoke and smoke plumes will be modeled by basic smoke vectoring based on forecasted weather. Active monitoring of smoke from a Park fire will be made on all fires that do or are expected to impact public safety, whether in or outside of the Park. If copious smoke from a large, catastrophic fire that burns large areas for many days is produced or is expected, air quality monitoring equipment and qualified monitoring personnel will be ordered through the national interagency fire dispatch system.

The state of Utah uses a clearing index system to evaluate potential for poor, moderate, good, and excellent dispersal conditions in the lower atmosphere. The index is generated daily by meteorologists at the Salt Lake Weather Service Office. The clearing index evaluates both air stability in the lower atmosphere and the speed of transport horizontal winds. An index of 500 is considered the boundary between moderate and good dispersal conditions.

Smoke will be monitored from all fires and actions taken to minimize impacts on health and safety.

Capitol Reef National Park is a party to a Memorandum of Understanding between the State of Utah, Utah Air Quality Board (UAQB) and the NPS. The agreement addresses air quality and wildland fire management programs. In accordance to the terms of this agreement, Capitol Reef will follow the procedures outlined below:

- Get approval in the go/no- go process from the UAQB to proceed with Wildland Fire Use.

- Provide the UAQB an inventory of particulate emissions on Wildland Fire Use fires that burn more than 50 acres daily.

XI. Fire Critiques and Annual Plan Review

All Wildland Fire Management Plans are required to be reviewed annually with updates approved by the Superintendent. Copies of the annual update will be sent to the Regional FMO.

A. Critiques and Fire Reviews

A fire review will be accomplished and documented after each wildland fire event by the Fire Analysis Committee. In addition to these members, the Fire Management Officer will invite Incident Commanders, Prescribed Burn Bosses, Fire Behavior and Weather Specialists, and other staff as involved or interested to attend these meetings. After Action Reviews (AAR's) should be conducted by the IC on each incident following the interagency AAR format. Critiques will be held within two weeks after the fire is out and will discuss the effectiveness of actions, decisions, and support equipment and personnel, with a goal not of pointing out blame, but rather of improving operations on the next incident and identifying organizational problems. The review will identify areas that can be improved upon through training, changes in procedures, improved communication, etc. Special recognition should be given to those who put forward extra effort to accomplish their duties and helped to meet the goals and objectives of the incident. Also, any cooperators should be recognized. Any changes in procedures should be made immediately and broadcast to all those who may be involved. Training deficiencies should be corrected as soon as required training is available. A report of each critique will be prepared, submitted to the Superintendent and the Zion FMO, and prompt action will be taken on any items needed to assure safety. The RFMO will receive copies of significant reviews.

Formal reviews of in- park fires may be made as specified in the NPS policy following significant incidents. Reports of fire injuries, fatalities, and fire shelter deployments will follow NWCG and NPS policy. Copies will be sent to the Zion FMO.

B. Annual Fire Summary Report

The Chief Ranger will complete an annual Wildland Fire Summary Report for each calendar year. The report will contain the number of fires by type, acres burned by fuel type, cost summary, personnel used, hours of aircraft used, and fire effects.

C. Annual Wildland Fire Management Plan Review

The Superintendent, Chief Ranger, Chief of Resource Management, and Zion Fire Management Officer will review the Wildland Fire Management Plan annually each fall. Necessary updates or changes will be accomplished prior to the next fire season. Any additions, deletions, or changes will be reviewed to determine if such alterations warrant revalidation of the plan by the Superintendent. The Regional Fire and Aviation Office has prepared a form to assist in this annual update. A copy of the signed document will be sent to the Regional FMO and Zion FMO.

D. Individual Fire Reports

Fires will be sequentially assigned a fire number by calendar year, and will be documented on an Individual Fire Report (DI- 1202). The Incident Commander or Burn Boss will complete the fire report within 7 days after the fire is declared out. The original is retained in Park files, and a copy is forwarded to the Zion Fire Management Office for data entry. For off- park mutual aid assistance or support actions, the Chief Ranger will complete the Individual Fire Report within 7 days after a fire is declared out or resources return home. The NPS must have a DI- 1202 with an incident number on file for firefighters to receive credit for work performed on any fire. The Chief Ranger will also complete a Case Incident Report (Form 10- 343). Instructions for filling out the report are found in Reference Manual 18. All WFU incidents will be entered into NFPORS by the Zion FMO.

An annual file will be established to hold the reports for each year. A complete report will include the following, if applicable: guidelines or delegations of authority signed by the Superintendent or Chief Ranger; WFSA's, WFIP's, copies of resource orders, personnel lists, equipment purchased, perimeter maps, copies of emergency time reports, fire behavior evaluation, press clippings, accident reports, weather reports and records, documentation of all financial charges made against the PMP, and burn plan, rehabilitation plan, and other special plans. Suppression and WFU fires are assigned an account number if there are any chargeable costs. These are assigned by the Regional Fire Program Assistant at 1- 303- 969- 2948.

E. Daily Situation Reports

Due to lack of fire activity the Park does not participate in daily situation reporting. In the event of a fire actively burning more than one operational period, daily updates will be reported to Richfield Utah Interagency Fire Center and entered into the NPS fire reporting website. This report consists of number of fires, their size class, their control status, and resources committed. The Park will also notify the Zion Fire Management Officer, who will assist with this reporting. If any fire exceeds 10 acres, or there has been property damage or injuries, notify the Zion Fire Management Officer and Regional FMO as soon as possible.

F. Training and Experience Records

The Zion Fire Management Officer will enter all training and experience data into the computer and ensure that the information is current. The Wildland Fire Coordinator will be responsible for sending the information to Zion's FMO.

G. Resource Order Form

All assistance requests must be coordinated through the Richfield Interagency Fire Center. Copies of Resource Ordering System Status resource orders will be maintain with the fire reports.

XII. Consultation and Coordination

A. Agencies Consulted

Bryce Canyon National Park
Intermountain Region Office, National Park Service
Richfield Interagency Fire Center, including Fishlake Forest and BLM Richfield Field Office
U.S. Fish and Wildlife Service
Utah State Historic Preservation Office
Zion National Park

B. Tribes Consulted

Cochiti Pueblo
Goshute Tribe
Hopi Cultural Preservation Office
Kaibab Paiute Tribal Council
Las Vegas Colony Council
Navajo Nation
Paiute Indian Tribe of Utah
Picuris Pueblo
Pueblo of Acoma
Pueblo of Isleta
Pueblo of Jemez
Pueblo of Pojoaque
Pueblo of Zia
Pueblo of Zuni
San Ildefonso Pueblo
San Juan Pueblo
Sandia Pueblo
Santa Ana Pueblo
Santa Clara Pueblo
Santo Domingo Tribe
Southern Ute Tribal Council
Taos Pueblo
Tesuque Pueblo
Uintah and Ouray Tribe
Ute Mountain Ute Tribe
White Mesa Ute Tribe

C. Wildland Fire Management Plan Preparation, Persons Consulted

Henry Bastian, Fire Ecologist, Zion National Park
Linda Chappell, Fire Ecologist, US Forest Service, Richfield Interagency Fire Center
Len Dems, Fire Management Officer, Intermountain Region
Kelly Fuhrmann, Fire Ecologist, Zion National Park
Kevin Greenhalgh, Acting FMO, Dixie National Forest, Richfield Interagency Fire Center
Albert J. Hendricks, Superintendent, Capitol Reef National Park
Ken Kehrer, Chief Ranger, Capitol Reef National Park
Bob Lineback, Wildland Fire Management Specialist, Intermountain Region
Eva Long, Environmental Protection Specialist, Intermountain Region
Cay Ogden, T&E Coordinator, Intermountain Region
Jan Passek, Fire Management Officer, Zion National Park
Nathan Plants, Wildland Fire Coordinator, Capitol Reef National Park
Mary Risser, Superintendent, Golden Spike National Historic Site
Bryan Swift, Fire Management Officer (retired.), Intermountain Region

Mark Thomson, Wildland Fire Coordinator, Capitol Reef National Park
Anne Worthington, Archeologist, Capitol Reef National Park

D. Environmental Compliance

In April 2003 and June 2004, the NPS consulted with those federal and state agencies having direct and indirect jurisdiction over fire management for and adjacent to Capitol Reef National Park. Consultation with NPS, BLM, and Forest Service personnel helped ensure consistency across agency boundaries. In September 2004, initial public scoping was conducted and three responses were received. All three supported the preparation of a plan that included managing some Park fires for resource values. In June 2005, a second public announcement was released that requested comments on a draft FMP for the Park. Copies of the draft plan were sent out to three local libraries, the Richfield Interagency Fire Center, and the Utah Environmental Congress. The public announcements are found in Appendix C.

On June 5, 2003, two new NEPA Categorical Exclusions were published in the *Federal Register* (Vol 68, No. 108, pages 33814- 33824) to assist federal agencies in their fire management programs. The NPS Intermountain Region determined that in limited instances park FMPs may use the new Categorical Exclusions for their NEPA compliance, as long as the DOI categorical exclusion conditions are met. Capitol Reef National Park followed the CE process and this FMP meets those specified guidelines. The decision document for the categorical exclusion is presented in Appendix C.

Informal consultation with the U.S. Fish and Wildlife Service was initiated on June 20, 2005. A biological assessment of the impacts of the FMP was submitted and described reasons for a finding of "not likely to adversely affect listed species". The USFWS concurred with that finding in a letter dated June 29, 2005. Documents for this consultation are in Appendix D.

Consultation with the State Historic Preservation Office for 106 compliance was initiated on January 19, 2005 with letter describing reasons for a finding that the FMP does not adversely affect cultural resources. The SHPO concurred with that finding on February 3, 2005. Documents for this consultation are in Appendix E.

Consultation with interested American Indian tribes was initiated on May 20, 2005 with a letter mailed to 26 tribes requesting comment on whether the FMP would affect important religious or cultural properties. Four tribes responded to the letter stating that they did not have any concerns. Documents for this consultation are in Appendix F.

Appendix A

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Appendix B.

Glossary of Fire Terms

Appropriate Management Response – Specific actions taken in response to a wildland fire to implement protection and fire use objectives.

Appropriate Management Strategy – A plan or direction selected by an agency administrator, which guide wildland fire management actions intended to meet protection and fire use objectives.

Best Available Control Technologies (BACT) - Practices related to an emission source or activity which results in the maximum level of emission reduction practicable, considering effects on public health, safety, environmental and economic impacts and cost. BACT are the minimum measures required for serious non- attainment areas a prescribed in the Clean Air Act. For management- ignited prescribed fires, BACT includes a smoke management program, which reflects the specific conditions and requirements of a local area. Elements of a smoke management program that reflects BACT include (1) smoke dispersion evaluation, (2) prescribed fire planning authorization and administration, (3) requirements for ensuring prescribed fire qualifications, (4) public education and awareness, (5) surveillance and enforcement, (6) emission inventories and emission reduction efforts, (7) appropriate governing authority oversight.

Burned Area Emergency Rehabilitation (BAER) – Emergency actions taken during or after wildland fire to stabilize and prevent unacceptable resource degradation or to minimize threats to life or property resulting from the fire. The scope of BAER projects are unplanned and unpredictable requiring funding on short notice.

Class I Air - Ana area set aside under the Clean Air Act to receive the most stringent protection of air quality from degradation. Mandatory federal Class I Areas are (1) international parks, (2) national wilderness areas which exceed 5,000 acres in size, (3) national memorial parks which exceed 5,000 acres in size, and (4) national parks which exceed 6,000 acres and were in existence prior to the 1977 Clean Air Act Amendments.

Climate - The prevalent or characteristic meteorological conditions of any place or region, and their extremes.

Cold Front - The leading edge of a relatively cold airmass that displaces warmer air. The heavier cold air may cause some of the warm air to be lifted. If the lifted air contains enough moisture, cloudiness, precipitation, and even thunderstorms may result. In case both airmasses are dry, there may be no cloud formation. Following a cold front passage (in the Northern Hemisphere), often westerly or northwesterly winds of 10 to 20 MPH, or more, continue for 12 to 24 hours.

Contingency Plan - A back- up plan of action for implementation when actions described in the primary plan are no longer appropriate. On management- ignited prescribed fires, these are the action to be taken if the fire is declared out of prescription and designated a wildland fire.

Continuity - The proximity of fuel to each other that governs the fire's capacity to sustain itself. This applies to aerial fuel as well as surface fuel.

Control Line - An inclusive term for all constructed or natural fire barriers and treated fire edges used to control a fire.

Cultural Resources - Archeological features, recent person- made features, and select natural resources important in understanding social activities or religious beliefs of Native Americans and European Settlers on a specific site.

Fire Danger - A general term used to express an assessment of fixed and variable factors such as fire risk, fuel, weather, and topography, which influence whether fires ill start, spread, and do damage; also the degree of control difficulty to be expected.

Fire Danger Rating - The process of evaluating fire danger by using a system of numerical scales.

Fire Dependent Ecosystem - A community of plants and animals that must experience recurring disturbance by fire, in order to sustain its natural plant succession, structure and composition of vegetation and maintain appropriate fuel loading and nutrient cycling to ensure proper ecosystem function.

Fire Intensity - The rate of heat release for an entire fire at a specific point in time (Also see fireline intensity level).

Fireline - The part of a control line that is scraped or dug to mineral soil. Sometimes called a fire trail.

Fire Management - An extension of the concept of wildland fire decision making which takes into account resource values, role of fire in the environment, the level of protection required, opportunities for management- ignited prescribed use of fire, consideration of fire effects, and the efficiency of the fire control operation.

Fire Management Unit (FMU) - A term used to denote the division of an area for fire planning purposes based on common fire management objectives.

Fire Prevention - Activities directed at reducing fire occurrence; includes public

education, law enforcement, personal contact, and reduction of fire hazard risks.

Fire Regime - Systematic interaction of fire with the biotic and physical environment within a specified land area.

Fire Risk - The probability that a wildland fire will start as determined by the presence and activities of causative agents.

Fire Season – One or more wildland fires (types 11 and 15) in ten day period (10% occurrence rule), as recorded in the Shared Applications Computer System (SACS) for a statistically representative planning period (e.g. 10 years), Supported by fire danger indices such as designated weather observations and calculated NFDRS codes for the primary fuel model. The period or periods of the year during which wildland fires are likely to occur, spread, and do sufficient damage to warrant organized fire control; a period of the year with beginning and ending dates as established by some fire control agencies.

Fire Weather - Weather conditions that influence fire ignition, behavior, and suppression.

Front - A transitional zone between two air masses of differing densities.

Fuel Break - A wide strip or block of land on which the native or pre- existing vegetation has been permanently modified so that fires burning into it can be more readily extinguished. It may or may not have fire lines constructed in it prior to fire occurrence.

Fuel Model - A simulated fuel complex for which all fuel descriptors required by the mathematical fire spread model have been specified.

Fuel Type - An identifiable association of fuel elements of distinctive species, form, size, arrangement, or other characteristics. General fuel types are grass, brush, timber, and slash.

Ground Fire - Fire that consumes the organic material beneath the surface litter of the forest floor, such as a peat fire.

Hazard - A fuel complex defined by kind, arrangement, volume, condition, and location that forms a special threat of ignition or of suppression difficulty.

Humidity - The measure of water vapor content in the air.

Indirect Attack - A method of suppression in which the control line is mostly located

along natural fire breaks, favorable breaks in topography, or at considerable distance from the fire, and all intervening fuel is backfired or burned out. The strip to be backfired is wider than in the parallel method and usually allows a choice of the time when burnout or backfiring will be done.

Initial Attack – The prompt, pre- planned, aggressive suppression response consistent with firefighter, public safety, and values to be protected.

Litter - The upper most layer of loose debris composed of freshly fallen or slightly decomposed organic materials such as dead sticks, br4anches, twigs, and leaves and needles.

Mesic - Relating to moist habitat.

Microclimate - A small site or habitat with essentially uniform climate, fuel modifying characteristics, and burning conditions.

Minimum Impact Suppression - The application of strategy and tactics, which effectively meet suppression and resource management objectives with the least cultural, environmental, and social impacts.

National Ambient Air Quality Standards (NAAQS) - Standards for maximum acceptable concentrations of pollutants in the ambient air to protect public health with an adequate margin of safety, and to protect public welfare from any known or anticipated adverse effects of such pollutants (e.g., visibility impairment, soiling, materials damage, etc.) in the ambient air.

National Environmental Policy Act (NEPA) - Establishes procedure that Federal agencies must follow in making decisions on Federal actions that may impact the environment. Procedures include evaluation of environmental effects of proposed actions, and alternatives to proposed actions; involvement of the public and cooperating agencies.

NFDRS - National Fire Danger Rating System.

Nuisance Smoke - Amounts of smoke in the ambient air that interferes with a right or privilege common to members of the public, including the use or enjoyment of public or private resources.

Perennial - Present at all seasons of the year and continuing from year to year.

Precipitation - The collective name for moisture in either liquid or solid form large enough to fall from the atmosphere and reach the earth's surface.

Prescription – Measurable criteria which guide selection of appropriate management response and actions. Prescription criteria may include safety, public health, environmental, geographic, and administrative, social, or legal considerations.

Prescribed Fire – Any fire ignited by management actions to meet specific resource management objectives and ignited in accordance with established prescription criteria in a predetermined area. A written, approved Prescribed Fire Plan must exist and NEPA requirements must be met prior to ignition. NEPA requirements can be met at the land use or fire management planning level.

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 coordination.

Preparedness Analysis – Required interagency analysis used to determine budget for initial attack resources and oversight requirements. The BIA's Fire Management Preparedness Analysis (FMPA) utilizes either the Alternative Analysis or the Interagency Initial Attack Analysis.

Relative Humidity - The ratio of the amount of moisture in the air to the amount which the air could hold at the same temperature and pressure if it were saturated; usually expressed in percent.

Running - Behavior of a fire that is spreading rapidly, usually with a well- defined head.

Size Class - An alpha character used in documentation of wildland fire that represents a size of the fire area:

Class A	less than 0.25 acres
Class B	0.26 - 9 acres
Class C	10 - 99 acres
Class D	100 - 299 acres
Class E	300 - 999 acres
Class F	1,000 - 4,999 acres
Class G	over 4,999 acres

Smoke Management Program (SMP) - Establishes a basic framework of procedures and requirements for managing smoke from prescribed fire and fire use projects. The purposes of SMP's are to mitigate the nuisance and public safety hazards (e.g., on roadways and at airports) posed by smoke intrusions into populated areas; to avoid significant deterioration of air quality and potential NAAQS violations; and to mitigate visibility impacts in Class I Areas.

Smoldering - Behavior of a fire burning without flame and barely spreading.

Spot Fire - Fire set outside the perimeter of the main fire by flying (or rolling) sparks or embers.

Spotting - Behavior of a fire producing sparks or embers that are carried by convection columns and/or the wind and which start new fires beyond the zone of direct ignition by the main fire.

State Implementation Plan (SIP) - A Clean Air Act required document in which States adopt emission reduction measures necessary to attain and maintain National Ambient Air Quality Standards, and meet other requirements of the Act.

Suppression – A management action intended to protect identified values from a fire, extinguish a fire or alter a fire's direction of spread.

Surface Fuel - All materials lying on, or immediately above, the ground, including needles or leaves, duff, grass, small dead wood, downed logs, stumps, large limbs, low brush and reproduction.

Temperature - A measure of the degree of hotness or coldness of a substance.

Topography - The configuration of the earth's surface, including its relief and the position of its natural and manmade features.

Torching - Fire burning principally as a surface fire that intermittently ignites the crowns of trees or shrubs as it advances.

Visibility - The greatest distance that prominent objects can be seen and identified by unaided, normal eyes. (Usually expressed in miles, or fractions of a mile.)

Weather - The short- term variations of the atmosphere in terms of temperature, pressure, wind, moisture, cloudiness, precipitation, and visibility.

Wet Line - A fire control line, usually temporary, prepared by treating the fuel with water and/or chemicals, which will halt the spread of the fire.

Wildland – Uncultivated lands where development is essentially nonexistent except for transportation facilities, structures, and are widely scattered.

Wildland Fire Agreements – Agreements between agencies for wildland fire protection. Includes mutual aid agreements, cooperative fire protection agreements,

direct protection agreements.

1. **Mutual Aid Agreement** – Written agreement between agencies and/or jurisdictions in which they agree to assist one another upon request, by furnishing personnel and equipment.
2. **Direct Protection Agreement** – Agreement with a single organization for attacking wildland fires and for directing suppression action.
3. **Cooperative Agreement** – Agreements between agencies that share wildland fire resources and costs related to incidents.

Wildland Fire – 1. An unplanned wildland fire requiring suppression actions, or other action according to policy, as contrasted with a management- ignited prescribed fire burning within prepared lines enclosing a designated area, under prescribed conditions. 2. A free burning wildland fire unaffected by fire suppression measures. 3. Any non-structure, free burning and unwanted fire, other than prescribed fire, that occurs in the wildland. The term "Wildfire" is being replaced by "Wildland Fire" within the Federal government lexicon.

Wildland Fire Management Plan – A strategic plan that defines a program to manage wildland and prescribed fires and documents the fire management program in the approved land use plan. The plan is supplemented by operational procedures such as preparedness plans, pre- planned dispatch plans, prescribed fire plans, hazard fuel reduction plans, and prevention plans.

Wildland Fire Situation Analysis (WFSA) – A real time decision making process that evaluates alternative management strategies against selected safety, environmental, social, economical, political, and resource management objectives as selection criteria.

Wildland/Urban Interface (WUI) - The line, area, or zone where structures and other human development meet or intermingle with the wildland.

Wind - The horizontal movement of air relate to the surface of the earth.

Xeric - Relating to dry habitat.

Appendix C

National Environmental Policy Act Documentation

Public Scoping Notice
Fire Management Plan
Capitol Reef National Park, Utah
September 2004

The National Park Service (NPS) is developing a comprehensive Fire Management Plan (FMP) for Capitol Reef National Park. On June 5, 2003, two new fire management categorical exclusions were published in the Federal Register (Vol 68, No. 108, pages 33814-33824) to assist federal agencies in developing their FMPs. The NPS has determined that in very limited instances, parks undertaking suppression and fuels reduction activities that meet the published guidelines may develop a FMP using Categorical Exclusions rather than preparing an Environmental Assessment or Environmental Impact Statement. Capitol Reef National Park meets those specified guidelines. As part of the development of a FMP, the park will evaluate potential impacts from proposed fire management activities in Capitol Reef National Park to the natural and cultural environment as well as to adjacent properties. Capitol Reef National Park is soliciting comments from the public to help identify issues and develop a fire management strategy.

You are invited to provide your comments and become part of this planning effort. For your convenience, a comment form is attached to this scoping notice.

Please return your comments by October 15, 2004 to:
Capitol Reef National Park
Fire Management Plan Comments
H.C. 70 Box 15
Torrey, UT 84775

Why does Capitol Reef need to plan and manage for fire?

The purpose of fire management at Capitol Reef National Park is to protect and conserve the natural and cultural resources of the park for the enjoyment of present and future generations. This includes perpetuation of the ecosystem in which these resources occur. The desired conditions for park resources include the re-establishment of the natural fire regime in appropriate areas and protection of cultural resources that could be affected by fire. Fire management is a tool used to maintain and/or restore ecological integrity. Wildland fire management is also intended to protect human life and property, both public and private.

Historically, fire has not been an important component in the landscape in and around Capitol Reef National Park. Prior to human settlement, vegetation in the majority of the park was largely as we see it now. The vast majority of the park does not contain large enough or dense enough patches of vegetation to sustain a fire. The few fires that historically occurred in the park were in remote locations and typically consisted of individual trees widely separated from other vegetation. Several relatively small areas of dense pinyon-juniper dominated vegetation within the park could sustain a fire and are contiguous with similar but larger areas on lands managed by other federal agencies. These areas contain trees that are many hundreds of years old, reflecting the lack of fire impacts for centuries. These contiguous patches along the park boundary do have the potential to act as a conduit for fires to exit or enter the park. Capitol Reef is developing this Fire Management Plan to facilitate coordination with the adjacent land managing agencies and their fire management strategies.

The NPS directs each park with vegetation capable of burning to prepare a Fire Management Plan to guide a program that responds to the park's natural and cultural resource objectives. The plan will emphasize safety considerations for park visitors, employees, neighbors, and developed facilities. It will address potential impact to public and private property adjacent to the park. Under new NPS policies developed over the last several years, additional resources and options are available to implement a fire management program. Priorities within the new policy focus first on the protection of human life. The second priority focuses equally on the protection of resource values and property. This new policy provides direction for park managers to use fire as a tool in maintaining natural processes and vegetation community structure.

Have preliminary issues and strategies been identified?

Capitol Reef National Park has identified preliminary issues related to fire management that will be discussed in the plan. We have not yet identified a specific fire management strategy. Issues identified through public scoping will be added to the following and addressed in the plan.

Current issues identifieds include:

- methods to execute a fire management program that provide a safe environment for firefighters and the public.
- methods to restore native vegetation and maintain park ecosystems and processes.
- effects on air quality.
- Fire management effects on wilderness resources and values.
- methods to reduce the risk of fire and fire suppression activities to cultural resources (i.e. historic structures, archeological sites).
- methods to control exotic vegetation, which causes long-term degradation of historic features.
- the best fire and fuel management techniques available for specific areas in the park (i.e., suppression, prescribed fire, natural ignition, mechanical fuel reduction).
- ways to mitigate the effects of smoke from wildland and prescribed fires on local communities and park visitors.
- strategies to minimize impacts and provide benefits from wildland and prescribed fire to the park natural and cultural resources.
- a plan that is consistent with the guiding principles of the 2001 Federal Fire Policy.

What's next?

Once we have received and reviewed the scoping comments, we will begin to develop the fire management strategy. We will be working closely with fire management officials from the NPS and adjacent land managers to develop this strategy. The next step will be writing the Fire Management Plan, which should be available for review early this winter. Those individuals that request it will have an opportunity to review a draft of the Fire Management Plan including scoping comments we receive.

If you wish to remain on the mailing list and/or review the draft of the Fire Management Plan, please check the box on the comment form, print your name and mailing address, and return to the address listed above. These materials including comment forms are also available on-line at www.nps.gov/care/pphtml/documents.html

Thank you for your interest in Capitol Reef National Park and your participation in the development of the Fire Management Plan. If you have questions, please contact Superintendent, Capitol Reef National Park, HC 70 Box 15, Torrey, UT 84775 or CARE_fireplan@nps.gov.

Scoping Comment Form
Capitol Reef National Park, Utah
Fire Management Plan

Please respond to the following questions and **return this form by October 15, 2004**. You may attach additional pages if needed. Also, include you name and mailing address in the space provided below. Thank you for your interest in Capitol Reef National Park.

Please be aware that names and addresses of respondents may be released if requested under the Freedom of Information Act. Our practice is to make comments, including names and home addresses of respondents, available for public review during regular business hours. Individual respondents may request that we withhold their home address from the record, which we will honor to the extent allowable by law. There also may be circumstances in which we would withhold from the record a respondent's identity, as allowable by law. If you wish us to withhold your name and/or address, you must state this prominently at the beginning of your written comments. We will make all submissions from organizations or businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, available for public inspection in their entirety.

Do you have information, concerns, or other comments about the proposal to use a categorical exclusion for the implementation of the fire management program?

_____
_____
_____

What issues would you like to see addressed?

_____
_____
_____
_____

What fire management strategies would you like to see addressed?

_____
_____
_____
_____

Do you have additional information, concerns, or other comments about the proposal?

_____
_____
_____
_____
_____

Please check the box if you would like to remain on the mailing list to receive additional information concerning this proposal.

Name: _____
Street/Box #:_____
City, State, Zip Code:_____

Fold along line and tape closed

Place
1st Class
Postage
Here

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Capitol Reef National Park
Fire Management Plan Comments
H.C. 70 Box 15
Torrey, UT 84775

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PUBLIC NOTICE

Request for Public Comment for the
Preparation of a Fire Management Plan, Capitol Reef National Park
September 15, 2004

The National Park Service proposes to prepare a comprehensive Fire Management Plan (FMP) for Capitol Reef National Park, Utah.

The purpose of fire management at Capitol Reef National Park is to protect and conserve the natural and cultural resources of the park for the enjoyment of present and future generations. This includes perpetuation of the ecosystem in which these resources occur. The desired conditions for park resources include the re-establishment of the natural fire regime in appropriate areas and protection of cultural resources that could be affected by fire. Fire management is a tool used to maintain and/or restore ecological integrity. Wildland fire management is also intended to protect human life and property, both public and private. Capitol Reef is developing this Fire Management Plan to facilitate coordination with the adjacent land managing agencies and their fire management strategies.

As part of the development of a FMP, the park will evaluate potential impacts from proposed fire management activities in Capitol Reef National Park to the natural and cultural environment as well as to adjacent properties. Capitol Reef National Park is soliciting comments from the public to help identify issues and develop a fire management strategy.

A detailed scoping notice has been developed and is available from the park. Comments will be accepted during a 30-day comment period beginning September 15, 2004 and comments should be received by the Park no later than October 15, 2004. The National Park Service will consider submitted comments, prepare the FMP in the winter of 2004, and make it available for public review. Notifications regarding public scoping, availability of the FMP, and any additional information concerning public involvement for this project will be published in local newspapers prior to the beginning of comment periods.

The scoping brochure and comment form may be viewed or printed on-line at http://www.nps.gov/care/pphtml/documents.html. You may obtain a printed copy by sending your request electronically to CARE_fireplan@nps.gov or mail your request for a copy to:

Superintendent
Capitol Reef National Park
HC 70, Box 15
Torrey, UT 84775

PUBLIC NOTICE

Request for Public Comment for the
Draft Wildland Fire Management Plan, Capitol Reef National Park
June 13, 2005

Capitol Reef National Park has prepared a comprehensive Wildland Fire Management Plan (FMP). The purpose of fire management at Capitol Reef National Park is to protect and conserve the natural and cultural resources of the park for the enjoyment of present and future generations. Desired conditions for park resources include the continuation of the natural fire regime in appropriate areas and protection of cultural resources that could be affected by fire. Wildland fire management is a tool used to maintain and/or restore ecological integrity, but it has a primary goal to protect human life and property, both public and private. This plan is written to provide guidelines for initial attack, appropriate fire management actions, and fire projects at Capitol Reef National Park. Capitol Reef has developed this FMP to facilitate coordination with the adjacent land managing agencies.

There is little evidence or history of past fire within the Park and few fires are expected over the lifetime of this plan. From 1977 through 2005, a total of 12 fires were reported but none were over half an acre in size. Almost all of these fires were lightning caused, burning a single snag or tree. Over 90% of the Park does not contain large enough or dense enough patches of vegetation to sustain a fire, and therefore fire effects on resources are minimal. Appropriate management response would be the primary strategy used by Capitol Reef National Park to decrease potential for unwanted fire, reduce risks for firefighting personnel, protect rare species, and to maintain the natural vitality of park ecosystems.

The primary management response that will be used at the Park is the confine/contain action. A confine/contain action consists of creating or using an existing fuel break around a fire and simply allowing the fire to burn to the fuel break. Within the majority of Capitol Reef, active firefighting actions will not be implemented because natural fuel breaks exist. Using natural fuel breaks may result in slightly larger fires, but provides for firefighter safety and reduces disturbance to the land caused by fire line construction. This strategy allows managers to focus firefighting activities where life, property, and natural or cultural resources are threatened, while allowing other areas to burn out naturally.

Several relatively small areas of vegetation within the Park are contiguous with similar but larger areas on lands managed by other adjacent federal agencies. These contiguous patches along our boundaries have the potential to act as a conduit for fires to exit or enter the Park. Fires in these locations will be managed with a wildland fire use strategy in coordination with the adjacent land managing agency and their fire management strategy. Wildland fire use fires will be used to meet resource management objectives that include reducing hazardous fuel build-up, restoring natural ecosystems that have been modified by prolonged fire exclusion, restoring vegetative composition, researching fire effects, and maintaining natural systems.

The FMP will be on review for 14 days. Copies will be available for review at the Richfield Library, Richfield, Utah, the Tri-County Library in Bicknell, Utah, and at the park library at Capitol Reef National Park, Utah. The document will also be available electronically at http://www.nps.gov/care/pphtml/documents.html. If you wish to comment on the FMP, you may mail comments to the address below or email to CARE_Fire_Management@nps.gov. You may also comment via electronic mail by going to http://parkplanning.nps.gov to access the new NPS comment site. At that website, you will be able to retrieve public documents from all the national parks. Comments should be sent by June 27, 2005.

Superintendent
Capitol Reef National Park
HC 70 Box 15
Torrey, UT 84775

Decision Memorandum on the Action and for the
Application of Categorical Exclusion 1.12
for

Implementation of a Fire Management Program at Capitol Reef National Park

U.S. Department of the Interior
National Park Service
Capitol Reef National Park
Wayne, Garfield, Sevier, and Emery Counties, Utah

Purpose and Need for the Action

Capitol Reef National Park was originally established as a National Monument by Presidential Proclamation on August 2, 1937. The Monument was enlarged by Proclamation on July 2, 1958 and again on January 20, 1969. The Monument was abolished and Capitol Reef National Park established by an Act of Congress of December 18, 1971.

Capitol Reef National Park is located in the Colorado Plateau area in south central Utah. The park is comprised of 241,904 acres within the counties of Wayne, Garfield, Sevier, and Emery. Park headquarters is located along State highway 24 in Fruita, Utah, 12 miles east of Torrey, 37 miles west of Hanksville, 220 miles southeast of Salt Lake City. The park includes both historic and geological features of interest. The primary feature of the park is the 100-mile long Waterpocket Fold, which is a “monoclinal flexure” in the earth’s surface. The Fold’s varied topographic features and wildlife attract sightseers, photographers, hikers, equestrians, writers, artists, scientists, and many others seeking to experience the solitude, quiet, and beauty of nature.

Much of the ground surface of the park is barren rock formations or sandy plateau desert. Most of the park has been, or continues to be grazed. There are some plateaus timbered with pinyon-juniper on the western boundary adjacent to the Dixie and Fishlake National Forest. The park is surrounded predominantly by public lands, including the two National Forests, Glen Canyon National Recreation Area, Grand Staircase-Escalante National Monument, and Bureau of Land Management lands.

Wildland fire has long been recognized as a significant natural process operating within and shaping native ecosystems. Virtually all vegetation community types exhibit some evidence of either fire tolerance or intolerance that is vitally important to the community ecology. At the same time, wildland fire has the potential to threaten human lives and property and, in those situations, needs to be controlled. Consequently, there are conflicting needs to manage wildland fire so that threats to humans and property are reduced, while still maintaining and/or restoring fire’s function as a natural process.

This Wildland Fire Management Plan for Capitol Reef National Park (Park) is written as an operational guide for managing the Park's wildland and managed fires. It defines levels of resource protection needed that will insure firefighter and public safety, protect facilities and resources, and restore and perpetuate natural processes given our current understanding of the complex ecological relationships in natural systems. It is written to comply with a service-wide requirement from Director’s Order-18 that parks with vegetation capable of sustaining fire will

develop a fire management plan and a fire management program reflecting local ecology. The plan also satisfies the requirements and direction provided in policy, legislative authority, park purpose statements, higher-level planning documents, and natural and cultural resource management objectives. Above all, it sets up a system to ensure the safety of staff, visitors, and adjacent landowners.

The Wildland Fire Management Plan will:

1. Provide overall program direction by stating mission, goals, and objectives.
2. Describe fire and fuels management tools, prescriptions, and operational procedures.
3. Designate and describe fire management zones.
4. Describe planning procedures.
5. Provide guidance on the protection of sensitive natural, cultural, and wilderness resources.
6. Describe the fire and fuels management organization structure.
7. Describe safety protocols that will be implemented to reduce risk to personnel.
8. Summarize the historical role of fire in the park and the current wildland fire situation.

This plan meets the requirements of the NPS Director's Order 18, which states that "each park with vegetation capable of burning will prepare a wildland fire management plan to guide a fire management program that is responsible to the park's natural and cultural resource objectives and to safety considerations for park visitors, employees, and developed facilities." The completion of this fire management plan will satisfy these requirements. This plan and associated categorical exclusion (CE) will establish future management direction for fire-related activities at the park to protect resources and values.

This plan will help achieve natural and cultural resource management objectives as defined in the Capitol Reef National Park Resource Management Plan (1994). Although wildland fires are uncommon in the Park, they are an integral part of any natural community. Research about how fire affects the Park's ecosystem is important to appropriately manage and maintain the resources.

Plan Conformance

The treatment actions, mechanical treatment and prescribed fire, that are described in the fire management program are categorically excluded from further documentation under the National Environmental Policy Act (NEPA) in accordance with 516 DM 2, Appendix 1, 1.12. Hazardous fuels reduction activities using prescribed fire will not be approved in the plan and therefore will not exceed the 4,500 acres limit authorized in the Categorical Exclusion. Wildland fire use will also not exceed 4,500 acres. Similarly, mechanical methods for crushing, piling, thinning, pruning, cutting, chipping, mulching, and mowing will not be approved in the plan and therefore will not exceed 1,000 acres limit authorized in the Categorical Exclusion. Because these activities will not be approved by the plan, it meets the Categorical Exclusion requirement that "all activities will be limited to areas in the wildland urban interface and Condition Classes 2 or 3 in Fire Regime Groups I, II, or III outside the wildland urban interface". If in the future we determine that fuels reduction activities are necessary to accomplish the goals of our fire program, the Park will be identify these activities through a collaborative framework and they will be conducted consistent with agency and Departmental procedures and applicable land and resource management plans. Capitol Reef National Park does not contain designated wilderness but actions identified in the plan will be consistent with the park's recommended wilderness status. Additionally, the fire management program will not include the use of herbicides or pesticides or the construction of new permanent roads or any other new permanent infrastructure. There will be no sale of vegetative material. The proposed action

was designed to conform to all National Park Service standards, and it incorporates the appropriate guides for the required and desired conditions relevant to the project activities. Suppression activities, if needed, would be considered emergency actions and not subject to NEPA requirements.

Compliance with the National Environmental Policy Act

The proposed action is categorically excluded from further documentation under NEPA in accordance with 516 DM 2, Appendix 1, 1.12 because it meets all the specified criteria for the use of this categorical exclusion as described in the *Federal Register* (Vol 68, No. 108, pages 33814-33824).

The application of this categorical exclusion is appropriate in this situation because there are no extraordinary circumstances that potentially have effects that may significantly affect the environment. None of the exceptions to categorical exclusions (Director's Order-12, *Conservation Planning, Environmental Impact Analysis, and Decision-Making Handbook*, §3.5) or other cautions found in §3.6 of the DO-12 Handbook apply.

I considered the level of effects of the proposed action as described in the Methodology of Assessing the Levels of Effects. Based upon the analysis in that document, the potential for significant effects does not exist.

Persons and Agencies Consulted

Public scoping was initiated on September 15, 2004 when a legal notice and a press release were published in newspapers in the local area and in Salt Lake City. These notices requested comments on the proposal to develop an FMP, and the National Park Service's intent to use a categorical exclusion, rather than an environmental assessment, for FMP. The park did not receive any substantive comments from the public scoping.

A public notice was published in local newspapers and in a Salt Lake City paper announcing the availability of the draft FMP on June 13, 2005. During the fifteen day comment period, one comment was received.

Informal consultation under Section 7 of the Endangered Species Act was initiated with the US Fish and Wildlife Service (USFWS) on May 20, 2005. The USFWS responded on June 29, 2005, and concurred that the development and implementation of the FMP is not likely to affect listed species or adversely modify designated critical habitat.

Consultation was initiated with the Utah State Historic Preservation Office (SHPO) under §106 of the National Historic Preservation Act on January 19, 2005. The SHPO responded on February 3, 2005, and agreed with the park's determination that the project would have No Adverse Effect. Consultation was initiated with twenty-one American Indian tribes on May 20, 2005, with correspondence notifying the tribes of the National Park Service's intention to develop a FMP and soliciting comments on the plan, and informing the tribes of our determination that the FMP would not have an adverse effect on ethnographic resources of concern to the tribes. Four tribes responded: the Confederated tribes of the Goshute Reservation, Santa Clara Indian Pueblo, Pueblo of Isleta, Southern Ute Indian Tribe. Each tribe indicated that they had no objections to the project. Consultation occurred with the Paiute Indian Tribe of Utah, Ute Mountain Ute Tribe, Pueblo of Zuni, Picuris Pueblo, Santa Clara Pueblo, Cochiti Pueblo, San Juan Pueblo, Pueblo of Pojoaque, Pueblo of Acoma, Uintah and Ouray Tribe, Kaibab Paiute Tribal Council, Southern Ute Tribal Council, Santo Domingo Tribe, Santa Ana Pueblo, Navajo Nation, Las Vegas Colony Council, Pueblo of Zia, Taos Pueblo, Goshute

Tribe, Sandia Pueblo, Pueblo of Isleta, Tesuque Pueblo, White Mesa Ute Tribe, Pueblo of Jemez, San Ildefonso Pueblo, and Hopi Cultural Preservation Office.

Decision and Rationale on Action

I have decided to implement the fire management program at Capitol Reef National Park. The Capitol Reef National Park Fire Management Plan contains consideration for wildland fire use and suppression as components for fire management in the park. The plan establishes fire management units that are based upon fire danger, unit location, and natural barriers to fire spread, safety of suppression forces, and adjacent land ownership.

The following options for appropriately managing fires will be used at Capitol Reef:

Suppression Strategy
All wildland fire suppression activities will provide for firefighter and public safety as the highest consideration. Suppression activities will strive to minimize the potential damage to natural and cultural resources, and will take into consideration economic expenditures, firefighting resources, and other fire priorities (local, regional, and national preparedness).

The concept of appropriate management response is integral to fire management policy. Management responses are programmed to accept resource management needs and constraints, reflect a commitment to safety and cost effectiveness, and accomplish desired objectives while maintaining the versatility to varying fire intensities as conditions change. The appropriate management response will be used to curtail the spread of fire and eliminate or reduce all fire threats to identified resources. Appropriate management response on the Park will include “confine and contain” actions or aggressive suppression actions.

The primary suppression strategy that will be used at the Park is the confine/contain action. A confine/contain action consists of creating or using an existing fuel break around a fire and simply allowing the fire to burn to the fuel break. The break can include natural barriers or can consist of manually and/or mechanically constructed lines. Active firefighting actions will not be implemented in areas where natural fuel breaks exist. Using natural fuel breaks may increase fire size, but provides for firefighter safety and reduces disturbance to the land caused by fire line construction. This strategy allows managers to focus firefighting activities where life, property, and natural or cultural resources are threatened, while allowing other areas to burn out naturally.

More aggressive suppression strategies can be used when critical resources are threatened. An example of an aggressive suppression strategy is to attack along the fires edge with fire engines, hand lines, and in some cases dozers or heavy ground disturbing equipment used to create fire lines. These operations or actions can be implemented around critical or sensitive sites or resources. In Capitol Reef, historic resources will be protected from wildland fire using this strategy. Wildland fires will follow the Wildland Fire Situation Analysis (WFSA) process in managing suppression actions.

Aircraft resources may be used for fire management activities, including reconnaissance, detection, ignition, personnel and logistical transportation, and fire control missions, such as retardant/bucket drops. Use of aircraft will be managed to meet all safety, wilderness, and soundscape objectives. Aircraft resources have never been used at the Park for fire activities.

Wildland Fire Use Strategy
Naturally ignited wildland fires will be managed (wildland fire use) to accomplish specific resource management goals and/or objectives in pre-defined fire management units within the

park. This strategy will be implemented within the Park where human or resource values at risk are minimal. Several relatively small areas of vegetation within the Park are contiguous with similar but larger areas on lands managed by other adjacent federal agencies. These contiguous patches along our boundaries have the potential to act as a conduit for fires to exit or enter the Park. Fires in these locations will be managed with wildland fire use in coordination with the adjacent land managing agency and their fire management strategy. Many of the suppression actions previously described will be used to manage these wildland fire use fires.

Wildland fire use fires will be used to meet resource management objectives that include reducing hazardous fuels, allowing fire in fire dependent plant communities, restoring natural ecosystems that have been modified by prolonged fire exclusion, restoring vegetative composition, researching fire effects, and maintaining natural systems. Objectives for wildland use fire on the Park will vary depending on specific conditions present at the time and location of the fire. These objectives will be discussed and actions coordinated with adjacent land management agencies to ensure compatibility with their fire strategies.

Prescribed Fire and Non-fire Treatments
Prescribed fire and non-fire treatments of fuels will not be used at Capitol Reef. Due to the lack of continuous fuels throughout the Park, these strategies are not needed.

This plan will not adversely affect cultural resources, threatened or endangered species, or ethnographic resources important to tribes. This plan was developed in coordination with the Fishlake National Forest and the Bureau of Land Management Richfield Field Office.

These actions meet the need for action. In addition, I have determined that the proposed action is in conformance with the approved plans. The Capitol Reef National Park General Management Plan (GMP) was approved in 2001. Although it is relatively silent about fire management issues because of the lack of fires on the park, the fire management plan is consistent with land use zones identified in the GMP. The park is currently a signatory for the Annual Operating Plan for Central Utah Fire Management between the U.S. Forest Service, Bureau of Land Management, NPS, USFWS, Bureau of Indian Affairs, and the State of Utah.

Both the GMP and Resource Management Plan emphasize the protection and preservation of the park's resources. The overriding concerns are to ensure that fire management activities do not threaten those resources, but instead are used to ensure their continued protection. The fire management program will also ensure that ecological processes, including fire, continue to shape vegetative patterns and conditions. The provisions included in the fire management plan and the management considerations that affect operational implementation are consistent with addressing these concerns.

I have determined that no further environmental analysis is required.

Implementation Date

This project will be implemented after the approval of the Fire Management Plan.

Albert J. Hendricks
Superintendent

6/29/05
Date

Administrative Review or Appeal Opportunities

This action is not subject to administrative appeal because the NPS does not have a formal appeal process. Concerns about this action should be directed to the Intermountain Regional Director, National Park Service, P.O. Box 25287, Denver, Colorado 80225-0287.

Contact Person

For additional information concerning this decision, contact Albert J. Hendricks, Superintendent, Capitol Reef National Park, H.C. 70 Box 15, Torrey, Utah, 84775 at 435-425-3791.

Appendix D

US Fish and Wildlife Consultation

United States Department of the Interior

NATIONAL PARK SERVICE
Capitol Reef National Park
Torrey, Utah 84775

IN REPLY REFER TO:

May 20, 2005

Henry Maddux
Field Supervisor
Utah Field Office
U. S. Fish & Wildlife Service
145 East 1300 South, Ste 404
Salt Lake City, UT 84115

Dear Mr. Maddux,

Capitol Reef National Park requests an informal consultation under Section 7 of the Endangered Species Act with regard to the development of a comprehensive Fire Management Plan for Capitol Reef National Park.

The National Park Service (NPS) is developing a Fire Management Plan (FMP) for Capitol Reef National Park. On June 5, 2003, two new NEPA Categorical Exclusions were published in the *Federal Register* (Vol 68, No. 108, pages 33814-33824) to assist federal agencies in their fire management programs. The NPS Intermountain Region has determined that only in very limited instances can park FMPs which plan to employ fire suppression and fuels reduction activities use the new Categorical Exclusions for their NEPA compliance, as long as other conditions are met (see attached memo dated Feb. 23, 2004). The Capitol Reef National Park FMP meets those specified guidelines.

The current fire program at Capitol Reef requires that all fires be suppressed as quickly as possible. It does not take into account the potential for impacts to resources caused by these activities and the impact to the ecosystem caused by eliminating fire. This current strategy has the potential to affect listed species or their habitat because of the rigid requirement to suppress all fires.

The purpose of developing a new fire management plan at Capitol Reef National Park is to protect and conserve the natural and cultural resources of the park for the benefit and enjoyment of present and future generations. This includes perpetuation of the ecosystem in which these resources occur. The desired conditions for park resources include the re-establishment of the natural fire regime in appropriate areas and protection of natural and cultural resources that could be affected by fire. Proper fire management is a tool that can be used to maintain and/or restore ecological integrity. Wildland fire management is also intended to protect human life and property, both public and private.

The FMP will represent an operational guide for managing the park's wildland and managed fires. It will define levels of resource protection needed to ensure firefighter and public safety, protect facilities and resources, and restore and perpetuate natural processes, given our current understanding of the systems. It will fulfill a service-wide requirement found in Director's Order-

18 that parks with vegetation capable of sustaining fire develop a fire management plan and a fire management program reflecting local ecology. The plan will also satisfy the requirements and direction provided in policy, legislative authority, park purpose statements, higher-level planning documents, and natural and cultural resource management objectives. Above all, it will establish fire management practices that ensure the safety of staff, visitors, and adjacent landowners.

The Fire Management Plan:

1. Provides overall program direction by stating mission, goals, and objectives.
2. Describes fire and fuels management tools, prescriptions, and operational procedures.
3. Designates and describe fire management zones.
4. Describes planning procedures.
5. Provides guidance on the protection of sensitive natural, cultural, and wilderness resources.
6. Describes the fire and fuels management organization structure.
7. Describes safety protocols that will be implemented to reduce risk to personnel.
8. Summarize the historical role of fire in the park and the current wildland fire situation.

The plan helps achieve natural and cultural resource management objectives as defined in the Capitol Reef National Park Resource Management Plan. Although wildland fires are uncommon at Capitol Reef, they are considered an important ecosystem process when the do occur. Research about how fire affects the park's ecosystem is important to appropriately manage and maintain the resources.

The Park has determined that fire suppression activities will not occur within habitat occupied by listed or candidate species, nor will fire suppression activities occur within designated critical habitat for the Mexican spotted owl that contains the primary constituent elements of critical habitat. The FMP ensures the protection of these species by involving resource professionals at the start of fire activities. The Park seeks the concurrence of the U.S. Fish and Wildlife Service that the proposed action is not likely to adversely affect federally listed species, proposed species, candidate species, or designated or proposed critical habitat. The pages that follow constitute a Biological Assessment to meet our obligations under the Act. We expect the FMP to be finalized after we receive your concurrence. The final edits that are still being made to the FMP will not affect our determinations for the listed species or critical habitat. With your concurrence, the Park believes that our obligations under the requirements of Section 7 of the Act will be satisfied.

We appreciate your assistance in an examination of the proposed project. If you have any questions, please contact Tom Clark, Chief of Resource Management & Science, at 435.425.3791 x144.

Sincerely,

Albert J. Hendricks
Superintendent

Biological Assessment for Capitol Reef National Park

Background

Because of the lack of extensive forests, there is little evidence of past fires that can be found in Capitol Reef. There are indications of occasional fire in the pinyon-juniper woodlands on benches along the park's western boundary, but most trees in these small patches of dense woodlands are many hundreds of years old, indicating that frequent high intensity fire occurrence is not a common part of the forest's ecology. The remainder of the park is primarily barren rock with some areas of grassland and riparian, where evidence of fires is difficult to document.

The Fruita Valley, which includes the Fruita Rural Historic District, contrasts with other areas of the park because it has been changed by human settlement and establishment of the orchards, and will continue to be managed in its current condition as a historical resource. Other human settlements, which have been abandoned, have also changed the vegetation and these include homesteads, areas of cultivation, and mines with associated camps and roads. These areas may be as large as several hundred acres and were changed from sparsely vegetated grasslands or woodlands to unvegetated or sparsely vegetated non-native plant communities. Range management projects, which chained, disked, and plowed several square miles of the park in various locations, have changed the vegetation from open canopy woodlands to sparsely vegetated non-native plant communities. A soil stabilization project in the 1950's covered five square miles of the park with over 350 small soil retention ponds. These ponds have modified the local hydrology, created habitat for non-native plants, and changed sparsely vegetated clay soils into pockets of non-native vegetation. Livestock grazing has occurred in the area since the late 1800's and continues in some portions of the park. This activity has reduced vegetative cover to some degree, especially in areas where livestock congregate, but these areas were sparsely vegetated even before grazing. Although these man-made disturbances have altered the vegetation communities, they have not drastically increased the occurrence of fires because most areas are still sparsely vegetated and will not carry a fire.

Recent records of wildfires at Capitol Reef indicate that fire occurs infrequently. From 1977 through 2005, a total of 12 fires were reported in the Park. The largest fire occurred in the campground near the Fremont River and reached .5 acres in size. Another small fire was caused by dumping wood stove ash in a pasture adjacent to the park residential area. Park fire personnel quickly extinguished both of these fires. The other ten fires were lightning caused and burned a single snag or tree in sparsely vegetated, slickrock dominated habitat. Because of the rugged and remote nature of the park, other unreported "snag fires" undoubtedly occurred during this time period but simply burnt out on their own without being detected.

Fire Management Plan Actions

The FMP is based on Fire Management Units (FMU) as the basic planning area. Under the proposed plan, Capitol Reef is divided into five fire management units (see attached map). The FMUs are defined primarily by major fire management strategy that corresponds to values to be protected, potential fire regimes, and interagency cooperation needed to accomplish goals. Each FMU has designated fire management strategies (with any constraints) to accomplish objectives identified for that FMU. Although some specific strategy actions may vary from one FMU to another, every FMU treats sensitive resources, including listed species, in the same manner. There will be no fire suppression activities allowed within 100 yards of known populations of listed plant species or within Primary Activity Centers for Mexican spotted owl.

Capitol Reef National Park Fire Management Units and fire strategies.

FMU	Total Acres	Allowable strategies
Greater CARE	192,200	Primarily wildland fire use, suppression only around specific cultural resources
Thousand Lakes	13,000	Primarily wildland fire use, suppression if conditions indicate likelihood of a catastrophic fire
Fremont	15,000	Primarily wildland fire use, suppression if conditions indicate likelihood of a catastrophic fire
Dry Bench	11,100	Primarily wildland fire use, suppression if conditions indicate likelihood of a catastrophic fire
Wagonbox Mesa	12,200	Primarily wildland fire use, suppression if conditions indicate likelihood of a catastrophic fire

An overarching goal of the FMP is to assure that native flora and fauna, including listed species and designated critical habitat, are maintained or enhanced through fire management practices and that fire is used as a tool to prevent unnatural catastrophic fires that may adversely affect natural resources. Isolated trees surrounded by sparsely vegetated areas and ignited by lightning will be allowed to burn without suppression. This strategy is termed wildland fire use. Almost 90% of the park's landscape and all but two recorded fires fit this fire type. These fires are incapable of spreading because of the distance between individual plants. Safety risks and suppression costs to control these fires are not justifiable considering the time and travel over rough terrain needed to access them. Overall, the costs of damage to resources by attempting to suppress a fire of this type outweigh the benefits, especially because of the lack of historic fires and since these fires are not likely to spread. In the past, fire personnel have been dispatched to some of these fires but always arrived after the fire had burned out.

In areas where vegetation density is capable of carrying fire, the decision of how to manage the fire will be depend on the circumstances. Portions of the Thousand Lakes, Fremont, Dry Bench, and Wagonbox Mesa FMUs, which total about 10% of the park, have the potential to carry fire in dense vegetation contiguous with high fuel areas on adjacent lands. Because of the lack of recorded fires in these areas, we expect that most fires in these areas will be allowed to burn to prevent the build up of fuels over time. Such burns will be allowed in cooperation with the adjacent land management agencies and only when fire conditions are suitable. If conditions indicate a greater likelihood of a catastrophic fire, suppression will be used to prevent resource damage and fire spread to neighboring communities. When suppression tactics are used, they will be restricted from areas known to have listed species habitats as described previously.

There are four locations within the Greater CARE FMU where sensitive cultural resources occur and require suppression activities to ensure their protection. The Fruita Rural Historic District, which includes the headquarters area, is a major concern in this regard. The district includes numerous historic buildings and other structures, including wood frame homes and barns. Many of these buildings and structures are used for staff and/or interpretive purposes, which increases the likelihood of fire occurring there. In the backcountry, three historic sites have been identified as needing special protection from wildfire. The first is the Lesley Morrell Line Cabin and Corral, in the park's Cathedral District. The cabin dates to the 1920's and is listed on the National Register of Historic Places. The second is The Post corral, which dates to 1950 and is located in the park's Waterpocket District. The large corral is located at a popular backcounty trailhead, and is currently being used as an equestrian campground. The third is the Duchess Mine and Betty Jack mining camp in the Waterpocket District. This site dates from the 1950's uranium mining days and may be eligible for National Register listing. Fire suppression to protect these resources will occur within the Fruita Rural Historic District and

within a half mile of the three backcountry sites. No listed species are known to occur within these defined suppression areas.

Although activities carried out under this FMP are generally expected to be beneficial to listed species, activities such as fire management projects or emergency fire suppression could, potentially, adversely affect listed species. Therefore, the park will not use prescribed fire or hazard fuel reduction. If, in the future, we determine that prescribed burning or hazard fuel reduction is necessary to accomplish the goals of our fire program, the park would complete the necessary compliance and public review as a separate document. Prior to any proposed future fire related project, the park will determine if listed species are present in the proposed project area and will consult with the USFWS under Section 7 of the Act, as appropriate. This process will assure that any project activities carried out for fire management will not adversely affect listed species or designated critical habitat.

Emergency fire suppression activities are less predictable. Where suppression is deemed appropriate to prevent catastrophic fire (*e.g.*, to protect human life or sensitive resources) the plan includes measures to mitigate any potential impacts to listed species or to designated critical habitat. Procedures established by the FMP assure that park staff serve as resource advisors from the very start of a fire and that fire operations personnel are familiar with park resources and the potential for damage to those resources caused by fire suppression actions. When a fire is first reported, park staff will determine through park records and emergency fire consultation with the USFWS whether sensitive resources, such as listed species, are present in the area of the fire. As discussed earlier when fire suppression is proposed, no suppression actions will be allowed within 100 yards of populations of listed plant species or within Primary Activity Centers for Mexican spotted owl. Minimum impact suppression tactics will be employed at all times to protect resources and the park will monitor the effects of fire on park resources. As discussed below, the park believes that even where suppression activities may occur, these mitigation measures will ensure that federally listed species will not be adversely affected.

Assessment of Impacts to Listed Species

We have reviewed the list of federally listed or candidate species that may occur in the Park. We conclude that habitat conditions are suitable for thirteen species, which have already been documented in the Park. The park has had an extensive rare plant inventory program since 1996 and is confident that the distribution and habitat preferences for its listed species are well known and documented. In addition, Mexican spotted owl inventory and research work in the early 1990's found all nesting and roosting areas within the park. Our data indicate that the following species could potentially be affected by the implementation of the FMP:

<u>Plants</u>		
Barneby reed-mustard	(*Schoencrombe barnebyi*)	Endangered
Jones Cycladenia	(*Cycladenia humilis var. jonesii*)	Threatened
Last Chance townsendia	(*Townsendia aprica*)	Threatened
Maguire's daisy	(*Erigeron maguirei)*	Threatened
Ute's ladies-tresses	(*Spiranthes diluvialis*)	Threatened
Winkler cactus	(*Pediocactus winkleri*)	Threatened
San Raphael cactus	(*Pediocactus despainii)*	Endangered
Wrights fishhook cactus	(*Sclerocactus wrightiae)*	Endangered
Rabbit Valley Gilia	(*Aliciella cespitosa*)	Candidate
<u>Animals</u>		
Mexican spotted owl	(*Strix occidentalis lucida)*	Threatened
Western yellow-billed cuckoo	*(Coccyzus americanus*)	Candidate

Southwestern willow flycatcher	(*Empidonax traillii extimus*)	Endangered
Bald eagle	(*Haliaeetus leucocephalus*)	Threatened

Since prescribed burning and mechanical clearing will not be used for fire management in the park, the greatest concern for potential damage to listed species and their habitat are fire suppression activities. The largest area identified for suppression activities is the Fruita Rural Historic District in the Greater CARE FMU and no listed species are known to occur in this area. The three additional historic sites will have suppression within a half-mile area surrounding the site and also do not contain listed species. Within the other four FMUs, there are areas of dense vegetation that could carry a fire onto adjacent lands but these areas do not contain listed species. Much of these areas are within designated critical habitat of the Mexican spotted owl, but they lack the primary constituent elements of critical habitat.

Barneby reed-mustard

Barneby reed-mustard plants are only known from the Fremont and adjacent portions of the Greater CARE Fire Management Units. Its typical habitat is composed of very sparsely vegetated areas of steep, talus slopes between rock ledges in the Moenkopi Formation, which is a community not adapted to fire. Due to lack of vegetation, the locations are not able to support a fire and, due to the steep unstable terrain, are often not safe for fire suppression activities. Although fire suppression may be allowed in other portions of the Fremont FMU to prevent the occurrence of a catastrophic fire, these activities will not be allowed within 100 yards of populations of this species. Barneby reed-mustard plants have not been found in areas with any evidence of past fire occurrence and wildfires that are allowed to burn in the future are not likely to adversely affect the plants or their habitat.

Jones Cycladenia

Jones Cycladenia plants are only known from the Greater CARE Fire Management Unit. Its typical habitat is composed of unvegetated areas of steep, clay slopes in the Chinle Formation, which is a community not adapted to fire. Jones Cycladenia is often the only vegetation growing on these slopes. Due to lack of vegetation, the locations are not able to support a fire and, due to the steep terrain, are often not safe for fire suppression activities. Fire suppression activities will not be allowed within 100 yards of populations of this species. Jones Cycladenia plants have not been found in areas with any evidence of past fire occurrence and wildfires that are allowed to burn in the future are not likely to adversely affect the plants or their habitat.

Last Chance Townsendia

Last Chance Townsendia plants are only known from the Thousand Lakes and adjacent portions of the Greater CARE Fire Management Units. Its typical habitat is composed of very sparsely vegetated areas of bentonite clay or gypsum soil in the Morrison and Carmel Formations, which is a community not adapted to fire. Due to lack of vegetation, these locations are not able to support a fire. Although fire suppression may be allowed in other portions of the Thousand Lakes FMU to prevent the occurrence of a catastrophic fire, these activities will not be allowed within 100 yards of populations of this species. One population of Last Chance Townsendia does occur in pinyon-juniper habitat with a density that could allow a fire to be carried. However, this population lies within a small, isolated patch of dense vegetation in a remote portion of the park. Because the park has no record or evidence of fire occurring in this habitat and a fire could not spread beyond the small patch, the FMP directs that suppression activities that could impact the population will not be used. The remaining populations of Last Chance Townsendia have not been found in areas with any evidence of past fire occurrence and wildfires that are allowed to burn in the future are not likely to adversely affect the plants or their habitat.

Maguire's daisy

Maguire's daisy plants are only known from the Thousand Lakes and portions of the Greater CARE Fire Management Units. Its typical habitat is composed of very sparsely vegetated areas of sandstone crevices in the Navajo Formation, which is a community not adapted to fire. Due to lack of vegetation, the locations are often not able to support a fire and, due to the inaccessibility of the terrain, are not safe for fire suppression activities. Although fire suppression may occur in other portions of the Thousand Lakes FMU to prevent the occurrence of a catastrophic fire, suppression activities will not be allowed within 100 yards of populations of this species. In fact, the sandstone areas where this species occurs are considered large barriers to any wildfire. Maguire's daisy plants are found in habitats associated with single-tree snag fires but past fire history illustrates that wildfires allowed to burn in the future are not likely to adversely affect the plants or their habitat.

Ute's ladies-tresses

Ute's ladies-tresses plants are only known from the Greater CARE Fire Management Unit. Its typical habitat is composed of densely vegetated wetlands along the Fremont River, which is a community not adapted to fire. Due to high fuel moisture associated with vegetation in this habitat, the locations are not able to support a fire. Fire suppression activities will not be allowed within 100 yards of populations of this species. Ute's ladies-tresses plants have not been found in areas with any evidence of past fire occurrence and wildfires that are allowed to burn in the future are not likely to adversely affect the plants or their habitat.

Winkler cactus and San Raphael cactus

Winkler cactus and San Raphael cactus are only known from the Greater CARE Fire Management Unit. Typical habitat for these cacti is composed of sparsely vegetated areas of sandy soil in the Morrison Formation, which is a community not adapted to fire. Due to lack of vegetation, the locations are not able to support a fire. Fire suppression activities will not be allowed within 100 yards of populations of these species. In fact, the large sandy areas where this species occurs are considered barriers to any wildfire. Winkler cactus and San Raphael cactus have not been found in areas with any evidence of past fire occurrence and wildfires that are allowed to burn in the future are not likely to adversely affect the plants or their habitat.

Wrights fishhook cactus

Wrights fishhook cactus is only known from the Greater CARE Fire Management Unit. Typical habitat for this cactus is composed of sparsely vegetated areas of sandy soils, which is a community not adapted to fire. Due to lack of vegetation, the locations are not able to support a fire. Fire suppression activities will not be allowed within 100 yards of populations of these species. In fact, the large sandy areas where this species occurs are considered barriers to any wildfire. Wrights fishhook cactus have not been found in areas with any evidence of past fire occurrence and wildfires that are allowed to burn in the future are not likely to adversely affect the plants or their habitat.

Rabbit Valley Gilia

Rabbit Valley Gilia plants are only known from the Thousand Lakes and portions of the Greater CARE Fire Management Units. Its typical habitat is composed very sparsely vegetated areas of sandstone crevices in the Navajo Formation, which is a community not adapted to fire. Due to lack of vegetation, the locations are not able to support a fire and, due to the inaccessibility of the terrain, are not typically safe for fire suppression activities. Although fire suppression may be allowed in other portions of the Thousand Lakes FMU to prevent the occurrence of a catastrophic fire, suppression activities will not be allowed within 100 yards of populations of this species. In fact, the sandstone areas where this species occurs are considered large barriers to any wildfire. Rabbit Valley Gilia plants are found in habitats associated with single-tree snag

fires but past fire history illustrates that wildfires allowed to burn in the future are not likely to adversely affect the plants or their habitat.

Mexican spotted owl

Capitol Reef is within the Colorado Plateau Recovery Unit for the Mexican spotted owl and a majority of the Park is designated as critical habitat for this species. Capitol Reef has nine known Mexican spotted owl territories, which are widely distributed. Catastrophic stand-replacing fire within upland forests, which are potentially used for foraging, dispersal, and wintering, are considered threats to spotted owl populations. From fire history and examining evidence of fire on the landscape, such fires are not known to have occurred historically in Capitol Reef National Park nor would they be expected in the foreseeable future because of the paucity and patchiness of vegetation capable of sustaining a fire.

Nine Primary Activity Centers (PACs) have been identified for the Mexican spotted owl in Capitol Reef. Seven of these are within the Greater CARE FMU where suppression will not occur unless it threatens human life or cultural resources located in specific and limited areas. The remaining two PACs lie within the Thousand Lakes and Dry Bench FMUs where suppression could occur, however procedures established to protect sensitive resources will preclude suppression activities within these PACs. The habitat within the PACs lie within designated critical habitat of the owl, and these areas do possess the primary constituent elements of critical habitat. The habitat within the PACs can generally be described as deep canyons with small areas of dense conifers (e.g., Douglas fir and ponderosa pine) surrounded by higher benches of pinyon-juniper forest. Although a small area of the bench habitat within the PACs contains pinyon-juniper at a density high enough to carry a fire, there is no evidence of fire having occurred in these areas historically. Similarly, although some of the coniferous forest areas within the canyons are dense enough to carry a fire, no fire has ever been recorded in these habitats. Mexican spotted owls have not been found in areas with any evidence of past fire occurrence and wildfires that are allowed to burn are not likely to adversely affect the birds or their habitat.

Western Yellow-billed cuckoo

The Western yellow-billed cuckoo has candidate species status and is considered a rare summer resident and migrant in the park. No more than a few sightings have occurred in the last five years. Their primary breeding habitat, an overstory of cottonwood canopy, is present in the park but cuckoos have not been known to breed in the park. Due to high fuel moisture and the generally sparse understory associated with vegetation in this habitat, its primary habitat is not able to support a fire. Cuckoo surveys have not been conducted in the park, but recent general bird surveys conducted in 2000-04 have incidentally documented their presence. Yellow-billed cuckoos have not been documented in areas where suppression activities will occur and wildfires that are allowed to burn are not likely to adversely affect the birds or their habitat.

Southwestern willow flycatcher

The federally endangered Southwestern willow flycatcher nests primarily in mid-to-low elevation riparian habitat along rivers, streams, or other wetlands where a dense growth of willows or other plants are present. There are occasional sightings of this neotropical migrant in the park each year along the Fremont River but none have occurred within the Fruita Historic District. Although the park's riparian habitat may be capable of supporting flycatchers, breeding has not been documented. Due to high fuel moisture and the generally sparse understory associated with vegetation in this habitat, its primary habitat is not able to support a fire. Southwestern willow flycatchers have not been documented in areas where suppression activities will occur and wildfires that are allowed to burn are not likely to adversely affect the birds or their habitat.

Bald eagle

The Bald eagle, a federally threatened species, winters in the vicinity of the park. Although they are occasionally observed in areas west of the park, only a few bald eagles are observed each year in the park during the winter and early spring months. Bald eagle use in the park is sporadic, uncommon, and unpredictable. Large congregations of the birds do not occur, and there are no known, regularly used, winter perch sites or known roost sites within the park. Bald eagles have not been observed during the typical fire season at the Park and wildfires that are allowed to burn are not likely to adversely affect the birds or their habitat.

Conclusion

The Park believes that the development and implementation of this FMP is not likely to adversely affect any listed species, nor is it likely to adversely modify critical habitat of the Mexican spotted owl. Outside of a few small, human caused fires in the developed area of the park, there is no history of any fire events beyond a single tree catching fire due to lightning that subsequently burned out without human intervention. If fire conditions are extreme, the potential exists for catastrophic fire along our western boundary and the use of suppression actions. Mitigation measures established by the FMP will prevent impacts to listed species. Once completed, this FMP will replace the existing plan, which does have the potential to affect listed species because of the rigid requirement to suppress all fires.

United States Department of the Interior
FISH AND WILDLIFE SERVICE
UTAH FIELD OFFICE
2369 WEST ORTON CIRCLE, SUITE 50
WEST VALLEY CITY, UTAH 84119

June 29, 2005

In Reply Refer To
FWS/R6
ES/UT
05-0888

Memorandum

To: Park Superintendent, Capitol Reef National Park, HC 70, Box 15
Torrey, Utah 84775-9602

From: Utah Field Supervisor, Ecological Services, U.S. Fish and Wildlife Service, West Valley City, Utah

RE: Section 7 Consultation on the Fire Management Plan for Capitol Reef National Park

Based on information provided in your letters and biological assessments of May 20th, and June 17th, and the June 7th telephone conversation between Dave Worthington (NPS), Cay Ogden (NPS), Laura Romin (FWS), and Kate Schwager (FWS), we concur with your may affect, not likely to adversely affect determination for the Barneby reed-mustard, Jones cycladenia, Last Chance townsendia, Maguire daisy, Ute ladies'-tresses, Winkler cactus, San Raphael cactus, Wrights fishhook cactus, Rabbit Valley gilia or Wonderland Alice-flower, Mexican spotted owl, Western yellow-billed cuckoo, Southwestern willow flycatcher, and bald eagle. Although Western yellow-billed cuckoo is a candidate species, we concur with the determination as this is a long term plan and the species' status may change. We also concur with your not likely to adversely destroy or modify critical habitat determination for the Mexican spotted owl.

Should the proposed activities within this Fire Management Plan (FMP) change, or if additional information on the distribution of listed or proposed species becomes available, this determination may be reconsidered. This document is a programmatic document and does not include project-specific (site-specific) detail for fire management activities. Additional consultation with USFWS may be necessary for project/site-specific fire management activities.

The purpose of the Fire Management Plan for Capitol Reef National Park is to re-establish the natural fire regime, protect natural and cultural resources, restore ecological integrity, and to

protect human life and property. The FMP is an operational guide for managing fires and resource protection within the Park.

There is little evidence of past-fire history in Capitol Reef National Park. Due to the lack of contiguous forested habitat, and the prevalence of sparsely vegetated barren rock landscapes, most park locations are not able to support a fire. Capitol Reef National Park will not use prescribed fire or hazardous fuels reduction projects within the Park. Fire suppression activities are not expected to be necessary within habitat occupied by listed or candidate species or within designated critical habitat for the Mexican spotted owl.

Only a Federal agency can enter into formal Endangered Species Act section 7 consultation with the Service. A Federal agency may designate a non-Federal representative to conduct informal consultation or prepare a biological assessment by giving written notice to the Service of such a designation. The ultimate responsibility for compliance with ESA section 7, however, remains with the Federal agency.

We appreciate your interest in conserving endangered species. If further assistance is needed or you have any questions, please contact Kate Schwager, at (801) 975-3330 extension 132.

Appendix E

106 Consultation

AN 2/10

United States Department of the Interior

✓ NATIONAL PARK SERVICE
Capitol Reef National Park
Torrey, Utah 84775

Section 106
05-0094
Case No.

IN REPLY REFER TO:
4217 (CARE-CR)
January 19, 2005

✓ Fast

Jim Dykmann
Utah State Historical Society
300 Rio Grande
Salt Lake City, UT 84101

Dear Mr. Dykman:

In accordance with §106 of the National Historic Preservation Act of 1966, as amended, and 36 CFR Part 800, we wish to initiate consultation with the State Historic Preservation Officer and seek your review and comment regarding a proposed plan by Capitol Reef National Park. Capitol Reef National Park is developing a comprehensive Wildland Fire Management Plan (WFMP) as part of a service-wide requirement. The National Park Service's Director's Order-18 states that parks with vegetation capable of sustaining fire must develop a fire management plan. Designed as an operational guide for managing the park's wildland and managed fires the WFMP defines levels of resource protection needed that will ensure firefighter and public safety and protect facilities and resources.

PROJECT DESCRIPTION AND DETERMINATION OF AREA OF POTENTIAL EFFECT

The purpose of fire management at Capitol Reef National Park is to protect and conserve the natural and cultural resources of the park for the enjoyment of present and future generations. This includes perpetuation of the ecosystem in which these resources occur. The desired conditions for park resources include the re-establishment of the natural fire regime in appropriate areas and protection of natural and cultural resources that could be affected by fire. Fire management is a tool used to maintain and/or restore ecological integrity. Wildland fire management is also intended to protect human life and property, both public and private.

The history of wildfires at Capitol Reef is minimal. From 1977 through 2004 a total of ten fires were reported in the Park. Only two man-caused fires have been recorded, one fire occurred at the picnic area along the Fremont River reaching .5 acres in size and dumping wood stove ash caused another smaller grass fire in the residential area. All other fires were lightning caused, burning a single snag or tree. During this period other unreported "snag fires" undoubtedly occurred, but simply burnt out on their own, without detection. The majority of the park will not carry a wildfire due to lack of vegetation.

The plan would satisfy requirements and direction provided in policy, legislative authority, park purpose statements, higher-level planning documents, and natural and cultural resource management objectives. Above all, it would create a system to ensure

CARE 2005-06

the safety of staff, visitors, and adjacent landowners. The Wildland Fire Management Plan would:

1. Provide overall program direction by stating mission, goals, and objectives.
2. Describe fire and fuels management tools, prescriptions, and operational procedures.
3. Designate and describe fire management zones.
4. Describe planning procedures.
5. Provide guidance on the protection of sensitive natural, cultural, and wilderness resources.
6. Describe the fire and fuels management organization structure.
7. Describe safety protocols that will be implemented to reduce risk to personnel.
8. Summarize the historical role of fire in the park and the current wildland fire situation.

Although wildland fires are uncommon in the park, they are an integral part of any natural community. The plan would help achieve natural and cultural resource management objectives as defined in the Capitol Reef National Park Resource Management Plan. The fire-related desired future conditions for cultural resources, as stated in the Resource Management Plan are:

1. The historic scene and cultural resources of Capitol Reef National Park are, as closely as practical, in keeping with their original character and appearance.
2. The fire management program protects and preserves the cultural resources of Capitol Reef National Park.
3. During natural or managed ignitions, fire management operations are specifically designed to protect and/or enhance cultural resource integrity and scientific research potential.
4. Fire management staff collaborate with appropriate resource management staff to seek information and technical expertise to identify cultural resource preservation and protection needs.
5. Fire suppression activities do not negatively impact cultural resources.

Although implementation of the WFMP would generally be beneficial to all resources, activities such as fire suppression or prescribed burning could, potentially, adversely affect cultural resources. Therefore prior to any proposed prescribed burning or other planned fire related activities (*e.g.*, hazard fuel reduction), the park would consult with the State Historic Preservation Officer to determine if the proposed undertaking adversely affects cultural resources.

Suppression activities for unplanned fires are less predictable. However, in areas where suppression is deemed appropriate to prevent catastrophic fire (*e.g.*, to protect human life or property), the plan would incorporate measures to mitigate any potential impacts to cultural resources. These mitigating measures would include determining through park records where cultural resources are present and evaluating suppression methods prior to suppressing fires in those sensitive areas. The park would also assure that park staff serves as resource advisors on fire activities, and that fire operations personnel are familiar with park resources and potential damage from fire and suppression actions.

Because of the previous fire history, we anticipate that fire suppression activities would occur primarily in and near developed areas where cultural resource structures could be threatened (*e.g.*, near park offices, residences, or campgrounds), in particular the Fruita Historic District. If a fire should occur in a remote section of the park, minimum impact suppression tactics would be employed to protect resources, including prehistoric and historic sites, and the park would monitor and evaluate the effects of fire on park resources.

DETERMINATION OF ELIGIBILITY

Less than 10 percent of the park has been systematically surveyed for archeological sites. These include both prehistoric and historic sites. Several individual sites as well as the Fruita Historic District are listed on the National Register of Historic Places. A majority of the park's 763 known, documented sites have been reviewed for eligibility to the National Register of Historic Places. The results of those reviews are included with the site records on file at the park and at your office.

DETERMINATION OF EFFECT

The Wildland Fire Management Plan directs how the fire management program at Capitol Reef National Park should be structured. It takes into account the natural and cultural resources as well as protection of human life and property within the park and along its borders. The WFMP also provides guidance for the fire-related desired future conditions for cultural resources.

We are consulting with you regarding 36 CFR §800.4 and §800.5. The park has determined that the WFMP does not adversely affect the park's cultural resources. It is our opinion that the plan seeks to protect and preserve the park's cultural resources by identifying overall objectives and methods that are supportive of cultural resources and by stating our intent to consult with SHPO prior to hazard fuel reduction or prescribed burning. We seek your concurrence with this determination. For your convenience we have provided *I Concur* and *Date* blocks below.

If you have any questions please contact Cultural Resources Program Manager Anne Worthington at (435) 425-3791 ext. 146.

Sincerely,

Albert J. Hendricks
Superintendent

I Concur: _____ Date: 02.03.05

Jim Dykmann
Deputy State Historic
Preservation Officer

Appendix F

Tribal Consultation

United States Department of the Interior

NATIONAL PARK SERVICE
Capitol Reef National Park
Torrey, Utah 84775

IN REPLY REFER TO:
H4217 (CARE-CR)

May 20, 2005

Address

Dear __:

We are writing this letter to seek your review and comment regarding a proposed plan for Capitol Reef National Park. The National Park Service (NPS) is developing a Fire Management Plan (FMP) for Capitol Reef National Park.

The current fire program at Capitol Reef requires that all fires be suppressed as quickly as possible. It does not take into account the potential for impacts to resources caused by these activities and the impact to the ecosystem caused by eliminating fire. This current strategy has the potential to affect cultural resources because of the rigid requirement to suppress all fires.

The purpose of developing a new fire management plan at Capitol Reef National Park is to protect and conserve the natural and cultural resources of the park for the benefit and enjoyment of present and future generations. This includes perpetuation of the ecosystem in which these resources occur. The desired conditions for park resources include the re-establishment of the natural fire regime in appropriate areas and protection of natural and cultural resources that could be affected by fire. Proper fire management is a tool that can be used to maintain and/or restore ecological integrity. Wildland fire management is also intended to protect human life and property, both public and private.

Recent records of wildfires at Capitol Reef indicate that fire occurs infrequently. From 1977 through 2005, a total of 12 fires were reported in the Park. The largest fire occurred in the campground near the Fremont River and reached .5 acres in size. Another small fire was caused by dumping wood stove ash in a pasture adjacent to the park residential area. Park fire personnel quickly extinguished both of these fires. The other ten fires were lightning caused and burned a single snag or tree in sparsely vegetated, slickrock dominated habitat. Because of the rugged and remote nature of the park, other unreported "snag fires" undoubtedly occurred during this time period but simply burnt out on their own without being detected.

The FMP will represent an operational guide for managing the park's wildland and managed fires. It will define levels of resource protection needed to ensure firefighter and public safety, protect facilities and resources, and restore and perpetuate natural processes, given our current understanding of the systems. It will fulfill a service-wide

requirement found in Director's Order-18 that parks with vegetation capable of sustaining fire develop a fire management plan and a fire management program reflecting local ecology. The plan will also satisfy the requirements and direction provided in policy, legislative authority, park purpose statements, higher-level planning documents, and natural and cultural resource management objectives. Above all, it will establish fire management practices that ensure the safety of staff, visitors, and adjacent landowners.

The Fire Management Plan would:

1. Provide overall program direction by stating mission, goals, and objectives.
2. Describe fire and fuels management tools, prescriptions, and operational procedures.
3. Designate and describe fire management zones.
4. Describe planning procedures.
5. Provide guidance on the protection of sensitive natural, cultural, and wilderness resources.
6. Describe the fire and fuels management organization structure.
7. Describe safety protocols that will be implemented to reduce risk to personnel.
8. Summarize the historical role of fire in the park and the current wildland fire situation.

Although wildland fires are uncommon in the park, they are an integral part of any natural community. The plan would help achieve natural and cultural resource management objectives as defined in the Capitol Reef National Park Resource Management Plan. The fire-related desired future conditions for cultural resources, as stated in the FMP are:

1. The historic scene and cultural resources of Capitol Reef National Park are, as closely as practical, in keeping with their original character and appearance.
2. The fire management program protects and preserves the cultural resources of Capitol Reef National Park.
3. During natural or managed ignitions, fire management operations are specifically designed to protect and/or enhance cultural resource integrity and scientific research potential.
4. Fire management staff collaborates with appropriate resource management staff to seek information and technical expertise to identify cultural resource preservation and protection needs.
5. Fire suppression activities do not negatively impact cultural resources.

Although activities carried out under this FMP are generally expected to be beneficial to all resources, activities such as fire suppression or prescribed burning could, potentially, adversely affect cultural resources. Therefore, the park will not use prescribed fire or hazard fuel reduction. If, in the future, we determine that prescribed burning or hazard fuel reduction is necessary to accomplish the goals of our fire program, the park would complete the necessary compliance and public review as a separate document. Prior to any proposed prescribed burning or other planned fire related activities (*e.g.*, hazard fuel

reduction), the park would consult with the State Historic Preservation Officer (SHPO) to determine if the proposed undertaking adversely affects cultural resources.

An overarching goal of the FMP is to assure that native flora and fauna are maintained or enhanced through fire management practices and that fire is used as a tool to prevent unnatural catastrophic fires that may adversely affect natural and cultural resources. Isolated trees surrounded by sparsely vegetated areas and ignited by lightning will be allowed to burn without suppression. This strategy is termed wildland fire use. Almost 90% of the park's landscape and all but two recorded fires fit this fire type. These fires are incapable of spreading because of the distance between individual plants. Safety risks and suppression costs to control these fires are not justifiable considering the time and travel over rough terrain needed to access them. Overall, the costs of damage to resources by attempting to suppress a fire of this type outweigh the benefits, especially because of the lack of historic fires and since these fires are not likely to spread. In the past, fire personnel have been dispatched to some of these fires but always arrived after the fire had burned out.

Emergency fire suppression activities are less predictable. However in areas where suppression is deemed appropriate to prevent catastrophic fire (e.g., to protect human life or property), the plan would incorporate measures to mitigate any potential impacts to cultural resources. These mitigating measures would include determining through park records where cultural resources are present and evaluating suppression methods prior to suppressing fires in sensitive areas. The park would also assure that park staff serves as resource advisors on fire activities, and that fire operations personnel are familiar with park resources and potential damage from fire and suppression actions. Because of the previous fire history, we anticipate that fire suppression activities would occur primarily in and near developed areas where cultural resource structures could be threatened (*e.g.*, near park offices, residences, or campgrounds). If a fire should occur in a remote section of the park and suppression were deemed necessary, minimum impact suppression tactics would be employed to protect resources, including prehistoric and historic sites

In areas where vegetation density is capable of carrying fire, the decision of how to manage the fire will be depend on the circumstances. About 10% of the park has the potential to carry fire in dense vegetation contiguous with high fuel areas on adjacent lands. Because of the lack of recorded fires in these areas, we expect that most fires in these areas will be allowed to burn to prevent the build up of fuels over time. Such burns will be allowed in cooperation with the adjacent land management agencies and only when fire conditions are suitable. If conditions indicate a greater likelihood of a catastrophic fire, suppression will be used to prevent resource damage and fire spread to neighboring communities. When suppression tactics are used, they will be restricted from areas known to have sensitive cultural resources.

Less than 10 percent of the park has been systematically surveyed for archeological and ethnographic sites. These include both prehistoric and historic sites. Several individual sites as well as the Fruita Rural Historic District are listed on the National Register of Historic Places. A majority of the park's 763 known, documented sites have been reviewed for

eligibility to the National Register of Historic Places. The results of those reviews are included with the site records on file at the park.

The Fire Management Plan directs how the fire management program at Capitol Reef National Park should be structured. It takes into account the natural and cultural resources as well as protection of human life and property within the park and along its borders. The FMP also provides guidance for the fire-related desired future conditions for cultural resources.

It is our opinion that the plan seeks to protect and preserve the park's cultural resources by identifying overall objectives and methods that are supportive of cultural resource protection and by stating our intent to complete additional compliance and to consult with SHPO prior to hazard fuel reduction or prescribed burning. It will replace the existing fire plan that has the potential to affect cultural resources because of the rigid requirement to suppress all fires.

In accordance with Section 106 regulations published by the Advisory Council on Historic Preservation (ACHP), 36 CFR Part 800, Capitol Reef National Park requests that you review the above information to determine if there are any important traditional religious and/or cultural properties that may be affected by the proposed undertaking. If you believe that there are properties that may be impacted, we request that you notify us of these properties.

Please forward any written comments to me at the address on this letterhead within 30 days. If you have any questions please contact Cultural Resources Program Manager Anne Worthington at (435) 425-3791 ext. 146.

Sincerely,

Albert J. Hendricks
Superintendent

SOUTHERN UTE INDIAN TRIBE

June 9, 2005

Albert J. Hendricks, Superintendent
United States Department of the Interior
National Park Service
Capitol Reef National Park
Torrey, Utah 84775

Re: H4217 (CARE-CR)

Dear Mr. Hendricks:

I have reviewed your letter regarding the subject listed above, at this time; the Southern Ute Indian Tribe has no concerns or objections regarding this project. However, we would appreciate immediate notification in the event of inadvertent of Native American cultural sites, artifacts, or human remains.

Should you have any questions or require additional information, please do not hesitate to contact me at the number listed below, extension 2209.

Sincerely,

Neil B. Cloud

Neil B. Cloud
NAGPRA Coordinator

Cc: Clement J. Frost, Chairman
Southern Ute Indian Tribe

P.O. BOX 737 ✦ IGNACIO, CO 81137 ✦ PHONE: 970-563-0100

OFFICE OF THE GOVERNOR

505-869-3111 / 6333
FAX: 505-869-4236

PUEBLO OF ISLETA

P.O. BOX 1270 ISLETA, NM 87022

June 1, 2005

United States Department of the Interior
National Park Service
Albert J. Hendricks, Superintendent
Capitol Reef National Park
Torrey, Utah 84775

Dear Mr. Hendricks:

This letter is in response to your correspondence dated on May 20, 2005 regarding the proposed plan for the Capitol Reef National Park.

I am pleased to inform you that this project will not have an impact on religious or cultural sites affiliated with the Pueblo of Isleta. However, in the event that discoveries are found during construction, we would appreciate being advised of such findings.

Thank you for your consideration in contacting this office to express our concerns.

Sincerely,

PUEBLO OF ISLETA

Lt Gov Max Jr

For Robert Benavides,
Governor

cc: files

SANTA CLARA INDIAN PUEBLO

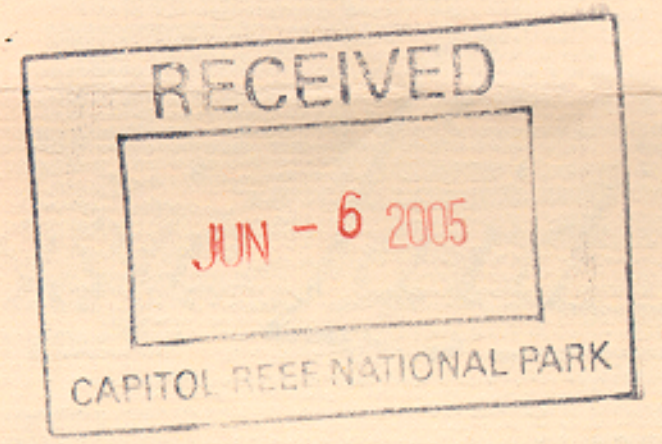
POST OFFICE BOX 580
(505) 753-7326
(505) 753-7330

ESPANOLA, NEW MEXICO
87532

OFFICE OF GOVERNOR

May 31, 2005

Albert J. Hendricks
Superintendent
National Park Services
Capitol Reef National Park
Torrey, Utah 84775



Dear Mr. Hendricks,

We received your letter dated May 20, 2005, in reference to H4217 (CARE-CR) regarding a proposed plan for Capitol Reef National Park.

The park's purpose of developing a new fire management at Capitol Reef National Park is to protect and conserve the natural and cultural resources of the park. With your new plan we feel that it does not affect the Pueblo of Santa Clara or our Traditional Cultural Properties.

We greatly appreciate you contacting us on this matter. If you have any questions please feel free to contact us. Thank you.

Sincerely,

J. Bruce Tafoya, Governor
Santa Clara Pueblo

Xc: Office of Environmental Affairs

GOSHUTE INDIAN RESERVATION
GOSHUTE TRIBE

CONFEDERATED TRIBES
of the
GOSHUTE RESERVATION
P.O. BOX 6104
IBAPAH, UTAH 84034
PHONE (435) 234-1138
FAX (435) 234-1162

May 25, 2005

Albert J. Hendricks, Superintendent
National Park service
Capitol Reef National Park
Torrey, Utah 84775

RE: Proposed Fire Management Plan for Capitol Reel National Park

Dear Superintendent Hendricks:

The Confederated Tribes of Goshute Indians is in receipt of your letter dated May 20, 2005 and have reviewed the material and have no objections pertaining to the Project. The particular area that the proposed project is being considered is lands that we believe are primarily the aboriginal homelands of the Northern Ute Tribe and Southern Paiute Tribe, therefore we default to the Northern Ute and Southern Paiute Tribes.

If additional information is needed, please contact Ed Naranjo, Tribal Administrator at 435.234.1138.

Sincerely,

Ed Naranjo
Tribal Administrator
Confederated Tribes of Goshute Indian

Appendix G

Minimum Impact Suppressions Techniques

The change from FIRE CONTROL to FIRE MANAGEMENT has added a new perspective to the role of fire manager and the firefighter. The objective of putting the fire "dead- out" by a certain time has been replaced by the need to make unique decisions with each fire start, to consider the land and resource objectives, and to decide the appropriate management response and tactics which result in minimum costs and resource damage.

Traditional thinking, "the only safe fire is a fire without a trace of smoke" is no longer valid. Fire Management now means managing fire "with time" as opposed to "against time." This change in thinking and way of doing business involves not just the firefighter, but all levels of management as well.

NPS fire management requires the fire manager and firefighter to select management tactics commensurate with the fire's potential or existing behavior, yet leaves minimal environmental impact.

The intent of this guide is to serve as a checklist for the Incident Command and Planning Section Chief, Operations Section Chief, Logistics Section Chief, Division/Group Supervisors, Strike Team/Task Force Leaders, Single Resource Bosses, and firefighters.

Accomplishments of minimum impact fire management techniques originates with instructions that are understandable, stated in measurable terms, and communicated both verbally and in writing. Evaluation of these tactics both during and after implementation will further the understanding and achievement of good land stewardship ethics during fire management activities.

AGENCY ADMINISTRATOR/INCIDENT MANAGEMENT TEAM/FIREFIGHTER CONSIDERATIONS FOR MINIMUM IMPACT MANAGEMENT

The following guidelines are for park superintendents, incident management teams and firefighters to consider. Some or all of these items may apply, depending upon the situation.

Consider:

Command and General Staff

1. Evaluate each and every suppression tactic during planning and strategy sessions to see that they meet superintendent's objectives and minimum impact management guidelines.

2. Include agency resource advisor and/or local representative in above session.
3. Discuss minimum impact management techniques with overhead during overhead briefings, to gain full understanding of tactics.
4. Ensure minimum impact management techniques are implemented during line construction as well as other resource disturbing activities.

Planning Section

1. Use resource advisor to evaluate that management tactics are commensurate with land/resource objectives, and incident objectives.
2. Use an assessment team to get a different perspective of the situation.
3. Use additional consultation from "publics" or someone outside the agency, especially if the fire has been or is expected to be burning for an extended period of time.
4. Adjust line production rates to reflect the minimum impact management tactics.
5. Use brush blade for line building- - when dozer line is determined necessary tactics.
6. Leave some trees randomly in fireline.
7. Ensure that instructions for minimum impact management techniques are listed in the incident action plan.
8. Detail objectives for extent of mop- up necessary- - for instance: "_____ distance within perimeter boundary."
9. If helicopters are involved, use long line remote hook in lieu of helispots to deliver/retrieve gear.
10. Anticipate fire behavior and ensure all instructions can be implemented safely.
11. Consider coyote camps versus fixed campsite in sensitive areas.
12. In extremely sensitive area, consider use of portable facilities (heat/cook units, latrines).

Operations Section

1. Emphasize minimum impact management techniques during each operational period briefing.
2. Explain expectations for instructions listed in incident action plan.
3. Consider showing minimum impact management slide- tape program or video to the crews upon arrival at airport/incident.
4. Consider judicious use of helicopters- - consider long lining instead of helispot construction.
5. Use natural openings so far as practical.
6. Consider use of helibucket and water/foam before call for air tanker/retardant.
7. Monitor suppression tactics/conditions.
8. Distribute field guide to appropriate supervisory operations personnel.

Logistics Section

Ensure actions performed around areas other than Incident Base, i.e. dump sites, camps,

staging areas, helibases, etc., result in minimum impact upon the environment.

Division/Group Supervisor and Strike Team/Task Force Leader

1. Ensure crew leaders and single resource bosses understand what is expected.
2. Discuss minimum impact tactics with crew.
3. Ensure dozer and falling bosses understand what is expected.
4. If helicopters are involved, use natural openings as much as possible; minimize cutting only to allow safe operations.
5. Avoid construction of landing areas in high visitor use areas.
6. Monitor suppression tactics/conditions.

Crew Leaders

1. Ensure/Monitor results expected.
2. Discuss minimum impact management techniques with crew.
3. Provide feedback on implementation of tactics- - were they successful in halting fire spread; what revisions are necessary?
4. Look for opportunities to further minimize impact to land and resources during the suppression and mop- up phase

IMPLEMENTATION GUIDELINES

Minimum impact management is an increased emphasis to do the job of suppressing a wildland fire while maintaining a high standard of caring for the land. Actual fire conditions and your good judgment will dictate the actions you take. Consider what is necessary to halt fire spread and ensure it is contained within the fireline or designated perimeter boundary.

Safety

1. Safety is of utmost importance.
2. Constantly review and apply the 18 Situations that Shout Watchout and 10 Standard Fire Orders.
3. Be particularly cautious with:
   - Burning snags you allow to burn down.
   - Burning or partially burning live and dead trees.
   - Unburned fuel between you and the fire.
   - Identify hazard trees with either an observer flagging and/or glow- sticks.
   - Be constantly aware of the surroundings, of expected fire behavior, and possible fire perimeter one or two days hence.

Fire Lining Phase

1. Select procedures, tools, and equipment that least impact the environment.
2. Give serious consideration to use of water as a firelining tactic (fireline constructed with nozzle pressure, wetlining).
3. In light fuels, consider:

a. Cold trail line.
b. Allow fire to burn to natural barrier
c. Consider burn out and use of "gunny" sack or swatter.
d. Constantly re- check cold- trailed fireline.
e. If constructed fireline is necessary, use minimum width and depth to check fire spread.

4. In medium/heavy fuels, consider:
   a. Use of natural barriers and cold trailing.
   b. Cooling with dirt and water, and cold trailing.
   c. If constructed fireline is necessary, use minimum width and depth to check fire spread.
   d. Minimize bucking to establish fireline; preferably build line around logs.
5. Aerial fuels- - brush, trees, and snags:
   a. Adjacent to fireline; limb only enough to prevent additional fire spread.
   b. Inside fireline; remove or limb only those fuels which if ignited would have potential to spread fire outside the fireline.
   c. Brush or small trees that are necessary to cut during fireline construction will be cut flush with the ground.
6. Trees, burned trees, and snags:
   a. MINIMIZE cutting of trees, burned trees, and snags.
   b. Live trees will not be cut; unless determined they will cause fire spread across the fireline or seriously endangers workers. If tree cutting occurs cut stumps flush with the ground.
   c. Scrape around tree bases near fireline if hot and likely to cause fire spread.
   d. Identify hazard trees with either an observer, flagging and/or glow sticks.
7. When using indirect attack:
   a. Do not fall snags on the intended unburned side of the constructed fireline, unless they are an obvious safety hazard to crews working in the vicinity.
   b. On the intended burnout side of the line, fall only those snags that would reach the fireline should they burn and fall over. Consider alternative means to falling, i.e. fireline explosives, bucket drops.

Mop- up Phase

1. Consider using "hot- spot" detection devices along perimeter (aerial or hand-held).
2. Light fuels:
   a. Cold- trail areas adjacent to unburned fuels.
   b. Do minimal spading; restrict spading to hot areas near fireline only.
3. Medium and heavy fuels:
   a. Cold- trail charred logs near fireline; do minimal scraping or tool scaring.
   b. Minimize bucking of logs to check for hot spots or extinguish fire; preferably roll the logs.
   c. Return logs to original position after checking or ground is cool.

d. Refrain from making bone- yards; burned/partially burned fuels that were moved would be arranged in natural position as much as possible.
e. Consider allowing larger logs near the fireline to burnout instead of bucking into manageable lengths. Use lever, etc. to move large logs.

4. Aerial fuels- - brush, small trees and limbs; remove or limb only those fuels which if ignited have potential to spread fire outside the fireline.
5. Burning trees and snags:
   a. First consideration is allow burning tree/snag to burn themselves out or down (Ensure adequate safety measures are communicated).
   b. Identify hazard trees with either an observer, flagging, and/or glow- sticks.
   c. If burning trees/snag pose serious threat of spreading firebrands, extinguish fire with water or dirt. FELLING by chainsaw will be last means.
   d. Consider falling by blasting, if available.

Camp Sites and Personal Conduct

1. Use existing campsites if available.
2. If existing campsites are not available, select campsites that are unlikely to be observed by visitors/users.
3. Select impact- resistant sites such as rocky or sandy soil, or opening within heavy timber. Avoid camping in meadows, along streams or lakeshores.
4. Change camp location if ground vegetation in and around the camp shows signs of excessive use.
5. Do minimal disturbances to land in preparing bedding and campfire sites. Do not clear vegetation or do trenching to create bedding sites.
6. Toilet sites should be located in minimum of 200 feet from water sources. Holes should be dug 6- 8 inches deep.
7. Select alternate travel routes between camp and fire if trail becomes excessive.
8. Evaluate coyote camps versus fixed campsites in sensitive areas.

Restoration of Fire Suppression Activities

1. Firelines:
   a. After fire spread is secured, fill in deep and wide firelines, and cut trenches.
   b. Waterbar, as necessary, to prevent erosion, or use wood material to act as sediment dams.
   c. Ensure stumps from cut trees/large size brush are cut flush with ground.
   d. Camouflage cut stumps, if possible.
   e. Any trees or large size brush cut during fireline construction should be scattered to appear natural.
2. Camps:
   a. Restore campsite to natural conditions as much as possible.
   b. Scatter fireplace rocks, charcoal from fire; cover fire ring with soil; blend area with natural cover.
   c. Pack out all garbage and unburnables.

3. General:
   a. Remove all signs of human activity (plastic flagging, small pieces of aluminum foil, litter).
   b. Restore helicopter- landing sites.
   c. Cover, fill in latrine sites.

The recommended wilderness within Capitol Reef National Park will be maintained within the standards of the 1964 Wilderness Act. It is critical that fire suppression actions are undertaken within the spirit of the Wilderness Act, and the need to protect wilderness values relative to suppression actions. This will include use of MIST and may include walking in crews, packing supplies in and out, etc. Within this context, the following fire operations will only be authorized, with restrictions, through the Superintendent in cooperation with the Incident Commander.

Spike Camps within recommended and proposed wilderness – actions that require pre- approval by the Superintendent or concurrence by Chief Resource Management, Chief Ranger, and Fire Management Officer:

- Location of camp, including maximum number of occupants and estimated duration.
- Location and type of toilet and sanitary facilities.

Aviation Operations within proposed wilderness – actions that require pre- approval by the Superintendent:

- Temporary flight restriction location and extent.
- Long line operations.
- Helicopter water bucket operations.
- Use of existing helispots or existing natural openings.

Aviation Operations that <u>do not</u> require pre- approval:

- Low level reconnaissance flights.

Motorized and mechanical equipment within proposed wilderness – actions that require approval by the Superintendent:

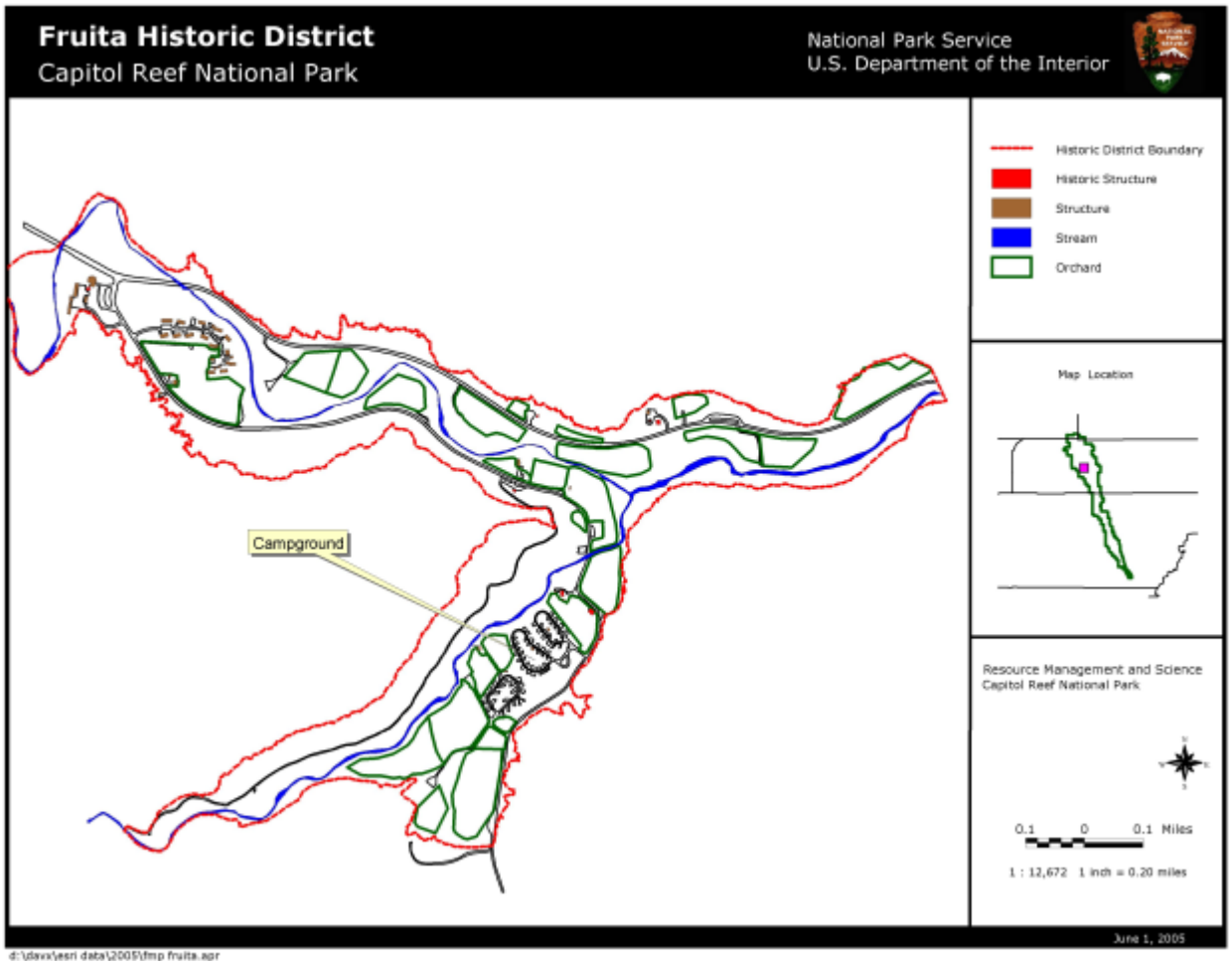
- Heavy equipment, including dozers of any size.
- Any mechanical equipment.

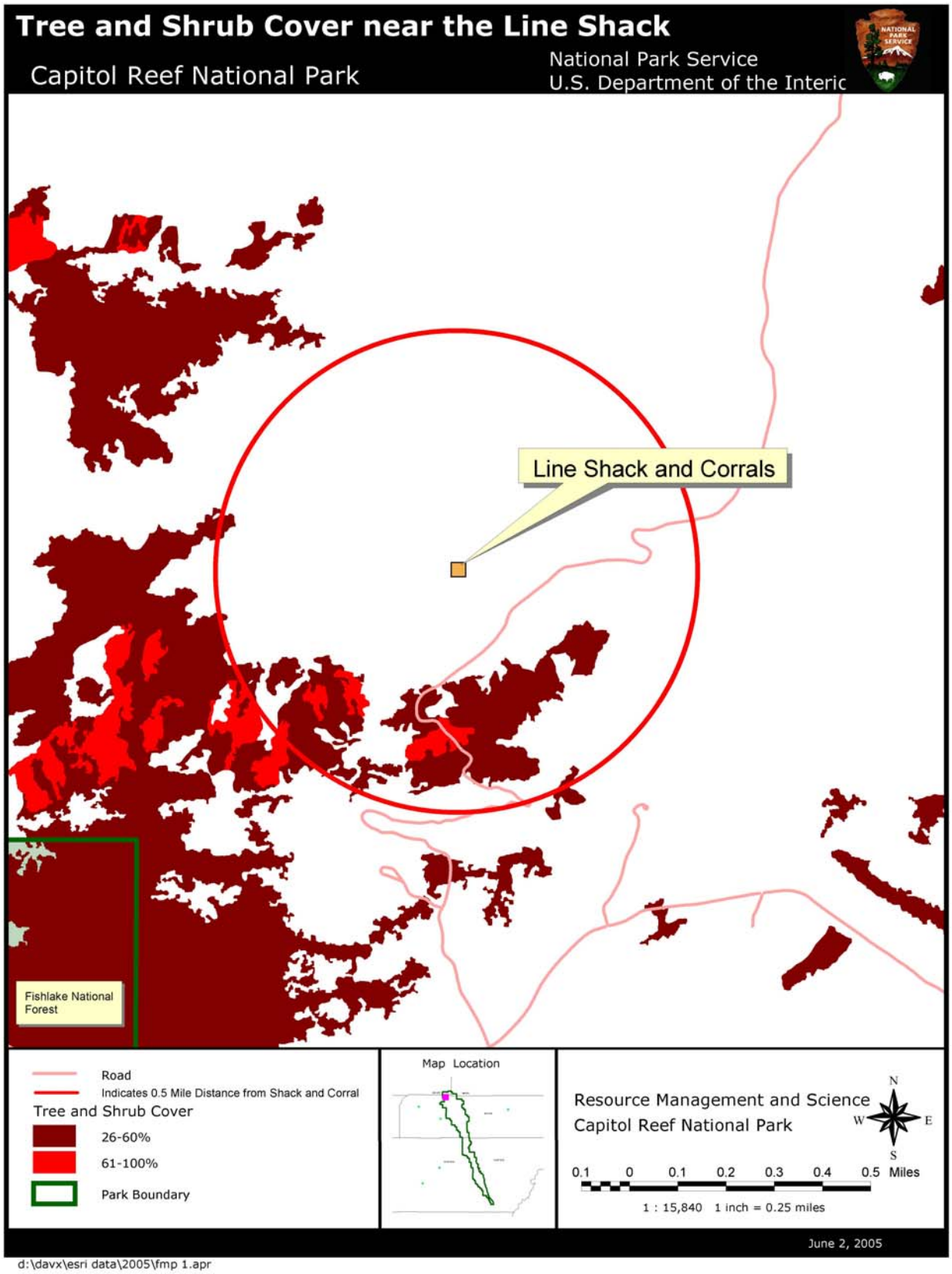
Additional Stipulations:

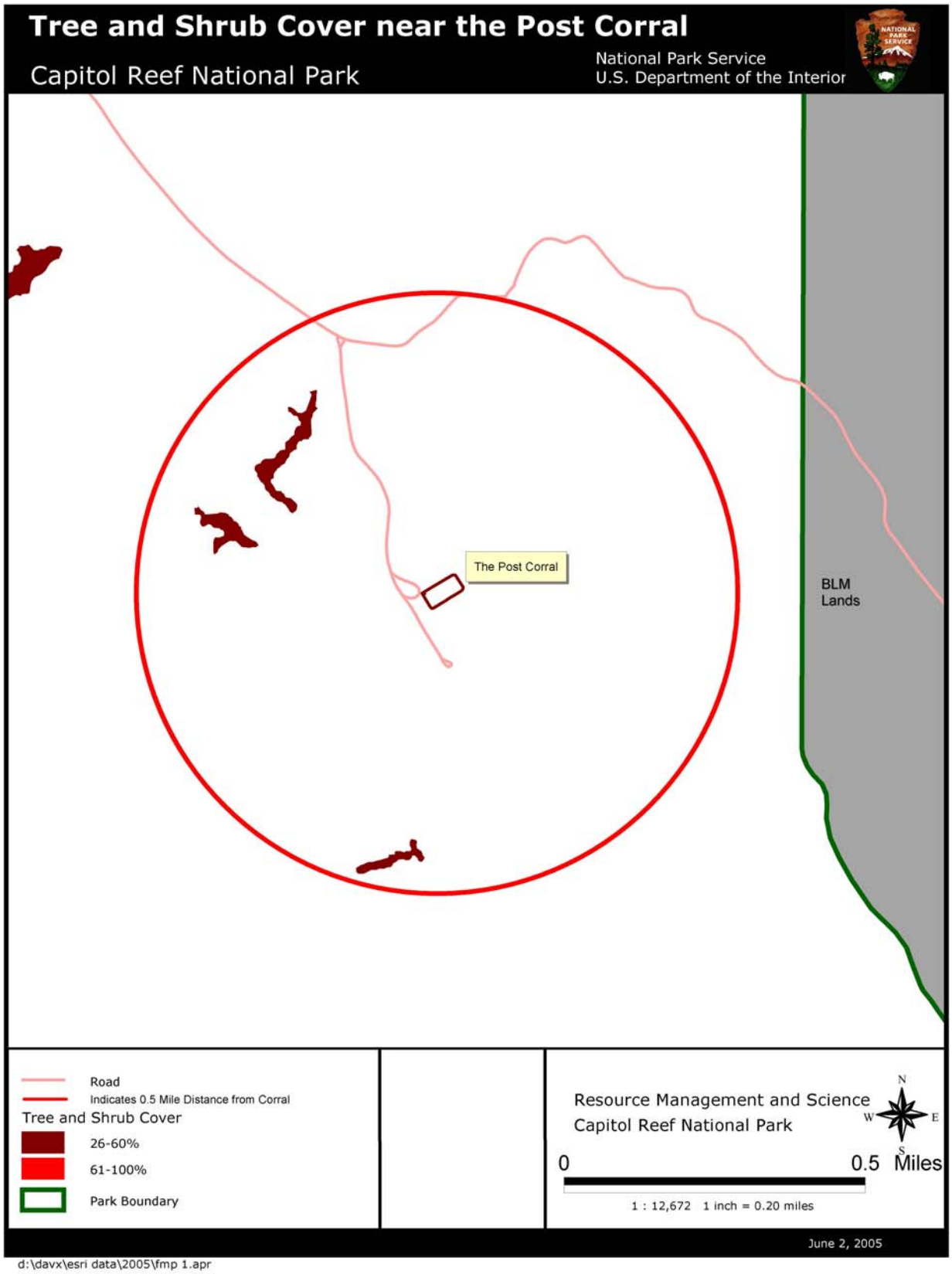
- The use of retardant and foam around streams and wetlands will use standard protocols of remaining at least 300 feet away.
- Any items not covered above would follow Wilderness ethics guidelines and be approved by the Agency Representative or Superintendent based on delegated authorities.

Appendix H

Pre Attack Plan




Tree and Shrub Cover near the Line Shack
Capitol Reef National Park
National Park Service
U.S. Department of the Interic
Line Shack and Corrals
Fishlake National Forest
Road
Indicates 0.5 Mile Distance from Shack and Corral
Tree and Shrub Cover
26-60%
61-100%
Park Boundary
Map Location
Resource Management and Science
Capitol Reef National Park
N
W
E
S
0.1 0 0.1 0.2 0.3 0.4 0.5 Miles
1 : 15,840 1 inch = 0.25 miles
June 2, 2005
d:\davx\esri data\2005\fmp 1.apr



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Appendix I

Wildland Fire Equipment Inventory

Description of Iter	Quantity	Condition	Description of Item	Quantity	Condition
Nomax Fire Shirt		GOOD	Head Lamps	12	FAIR/GOOD
Small	2		Radio Harness	8	GOOD/NEW
	9		Hard Hats	10	GOOD
Medium	7		Heat Shrouds	8	GOOD
Large	0		Goggles	9	GOOD/NEW
X- Large	2		Red Bags	10	GOOD
XX- Large			Sleeping Bags	11	GOOD
Nomax Fire Pants		GOOD	Sleeping Pads	6	FAIR
Waist 26	0		Tents	4	GOOD
Waist 28	2		Tent Bags	6	GOOD/NEW
Waist 30	4		Tent Fly (16'x24')	1	GOOD/NEW
Waist 32	6		Ear Plugs	20 Pairs	GOOD/NEW
Waist 34	5		First Aid Kits	8	GOOD
Waist 36	2		Emergency Blankets	6	GOOD
Waist 38	1		Belt Weather Kit	1	GOOD
BDU Style Pants			1qt. Water Bottles	36	GOOD/NEW
Waist 34- to- 38	1		Water Bottle Pouch	21	FAIR
Waist 38- to- 42	2		MRE's	41	NEW
Brush Jackets		GOOD	Fusee's	1 Case	GOOD
Small	0		Forestry Nozzle	1	GOOD
Medium	1		Fed Co Bladder Bag	9	FAIR/OLD
Large	3		Chain Saw (Stihl 04	1	GOOD
X- Large	3		Fire Shelters	5 (1987)	FAIR/GOOD
Leather Gloves		GOOD/NEW			
X- Small	6				
Small	8				
Medium	29				
Large	12				
X- Large	0				
Fire Line Gear			**Fire Hand Tools**		
FSS Yellow Pack w/Web Gear	11	GOOD	Shovel	16	GOOD
			McLeod	4	GOOD
Hotline Blue Pac w/Web Gear	3	GOOD	Pulaski	10	GOOD
			Flapper	2	GOOD
Nimrod Black/R	5	GOOD			
IA Packs		NEW 2004			
Inventory Conducted by: Nathan E. Plants			Date: June 2005		

Appendix J

Annual Operating Plan for Central Utah Interagency Fire Management

Appendix K

Key Wildland Fire Contacts

Updated June 2005

Fire Dispatch Centers:

Richfield Interagnecy Fire Center Dispatch		435- 896- 8404
RIFC Center Manager (Warren Sorrenson)		435- 896- 8404
RIFC On- Call Phone		435- 979- 8404
Color Country Interagency Dispatch	435- 865- 4600	

National Park Service:

ZION, Jan Passack, FMO	435- 772- 0188
ZION, Jeff Hickerson, Asst FMO	435- 772- 7842
BRCA, Bruce Fields, Prescribed Fire Specialist	435- 834- 4912
Regional FMO, Len Dems	303- 969- 2449
Regional Fire Weather, Richard Naden	303- 969- 3415
Regional FIREPRO	303- 969- 2948

U.S. Forest Service:

RIFC East Zone, Gayle Sorenson		435- 596- 1528
Dixie NF East Zone	435- 676- 8815	435- 676- 8314
Escalante RD, FCO, Keith Adams		435- 826- 5471
Loa/Teasdale RD, FCO, Greg Coleman		435- 425- 3702
Loa/Teasdale DR, Kurt Robbins		435- 836- 2811
Fishlake NF Supervisors Office		435- 896- 9233
Manti- La Sal FMO, Kim Soper		435- 637- 2817

Bureau of Land Management:

RIFC, FMO, Rick Higginbotham	435- 896- 1543
RIFC West Zone FMO, Tom Suwyn	435- 743- 3138
Cedar City FMO, Tooter Burdick	435- 586- 2401
Cedar City AFMO, Claire Jolley	435- 586- 2401
Escalante District	435- 826- 5400
Grand Staircase Escalante NM	435- 865- 4600

U.S. Fish & Wildlife Service:

Fish Springs NWR Manager, Jay Banta	435- 831- 5353

Bureau of Indain Affairs, Southern Paiute Field Office:

FMO, Jeremy Ybright	435- 674- 9720

National Weather Service:

Salt Lake Fire Weather Forecaster	801- 524- 5066
FAX	801- 524- 4030

State of Utah:

Central Area FMO, Mike Melton		435- 896- 5697
Southwest Area Manager, Ron Wilson		435- 586- 4408
South Central Area Manager, Marv Turner		435- 896- 5697
Utah Highway Patrol	800- 356- 9757	435- 896- 6471
Utah Division of Wildlife Resources, Jim Lamb		435- 865- 6100

County Governments:

Wayne Co. Warden, Greg Pace	435- 836- 2789
Wayne Co. Sheriff's Office	435- 836- 2789
Garfield Co. Warden, Josh Soper	435- 676- 8078
Garfield Co. Sheriff's Office	435- 676- 2678
Sevier Co. Warden, Terry Heath	435- 896- 5697
Sevier Co. Sheriff's Office	435- 896- 2660
Emery Co. Warden, Seasonal	435- 381- 2111
Emery Co. Sheriff's Office	435- 381- 2111
Public Safety Dispatch (Price)	435- 637- 0893
Public Safety Dispatch (Richfield)	435- 896- 6471

Aircraft Services:

Scenic Airlines, Cedar City	435- 586- 3881
Red Tail Aviation, Moab	435- 259- 7421
DOI- Aviation Management, Flight Coordination Center	208- 334- 9314
DOI- Aviation Management, Aviation Safety Manager	208- 433- 5070
IMR Aviation Safety Manager	303- 969- 2657

Hospitals/Clinics:

Wayne Clinic, Bicknell	435- 425- 3744
Hanksville Clinic, Hanksville	435- 542- 3181
Garfield Co. Hospital, Panguitch	435- 676- 8811
Sevier Valley Hospital, Richfield	435- 896- 8271
University of Utah Hospital, SLC	801- 581- 2700
St. Mary's Hospital, Grand Junction	970- 244- 1920

Ambulance and Life- Flight Services:

Airlife, St. Mary's, Grand Junction	800- 332- 4923
Classic Lifeguard III, SLC	800- 444- 9223
Air Med, University Hospital, SLC	800- 453- 0120

Air Quality:

Utah Smoke Manager	801- 539- 4151
(Greg Zschaechner, Utah State Division of Environmental Quality)	

Critical Incident Stress Team:

Salt Lake Emergency Operations Center	801- 535- 5467

Utilities:

Garkane Power, Loa Office	435- 836- 2795
South Central Communications	435- 826- 4211

Appendix L

Wildland Fire Use Implementation Procedures Reference Guide

Document available on- line at
www.nifc.gov/fire_policy/pdf/wildland_fire_use_guide.pdf