



**National Park Service
US Department of the Interior
Mesa Verde National Park
Colorado**

FINDING OF NO SIGNIFICANT IMPACT

Fire Management Plan Mesa Verde National Park and Yucca House National Monument

Recommended:

Kayci Cook Collins
Superintendent, Mesa Verde National Park
National Park Service

Date

Approved:

Kate Hammond
Regional Director, Interior Regions 6, 7, & 8,
National Park Service

Date

Table of Contents

INTRODUCTION	1
BACKGROUND	1
SELECTED ACTION AND RATIONALE FOR THE DECISION	2
Selected Action.....	2
Rationale For Decision.....	5
MITIGATION MEASURES	5
AGENCIES AND PERSONS CONSULTED	6
Civic Engagement	6
Public Comment Period.....	6
POTENTIALLY AFFECTED ENVIRONMENT.....	8
Vegetation Resources	8
Soil Resources	9
Special Status Species	9
Cultural Resources	10
THE DEGREE OF EFFECTS OF THE ACTION	10
Beneficial, Adverse, And Short- And Long-Term Effects Of The Proposed Action	11
Vegetation Resources.....	11
Soil Resources.....	11
Special Status Species.....	12
Cultural Resources.....	13
EFFECTS THAT WOULD VIOLATE FEDERAL, STATE, TRIBAL, OR LOCAL LAW PROTECTING THE ENVIRONMENT.....	15
CONCLUSION	15
TABLE 1 ACRES OF PROPOSED FIRE TREATMENT TYPES IN MVNP	3
APPENDIX A. MITIGATION MEASURES	

INTRODUCTION

The National Park Service (NPS) has prepared a Fire Management Plan (FMP) and Environmental Assessment (EA) in accordance with the requirements of the National Environmental Policy Act of 1969 (NEPA) to incorporate federal wildfire policy and guidance grounded in the evolving science of wildfire management into an updated plan for Mesa Verde National Park (MVNP) and Yucca House National Monument (YHNM) (collectively “the parks”) that meet NPS policies and requirements.

The need for the FMP is to provide a flexible range of options and activities that the NPS can use to respond to changes in environmental conditions and the specific needs of fire management within the parks. The FMP will also ensure the health and safety of the public, NPS staff, and firefighters; protect and maintain the parks’ natural and cultural resources; and provide a quality visitor experience.

The statements and conclusions reached in this Finding of No Significant Impact (FONSI) are based on documentation and analysis provided in the EA and associated decision file. To the extent necessary, relevant sections of the EA are incorporated by reference below. The EA is available at:

<https://parkplanning.nps.gov/document.cfm?parkID=79&projectID=92920&documentID=130384>

BACKGROUND

Congress established Mesa Verde National Park in 1906 to preserve and protect the material culture of the people who occupied the Mesa Verde cuesta.¹ The prehistoric architecture, artifacts, and landscapes that the parks are mandated to preserve are primarily associated with Ancestral Pueblo culture that occupied Mesa Verde and the Four Corners region from 550 to 1300 common era (CE).

In 1976, to protect certain areas of the park in a wilderness status, Congress set aside 8,500 acres known as the Mesa Verde Wilderness (Public Law 94-567, 90 Stat. 2692) under the provisions of the Wilderness Act (78 Stat. 890). On September 8, 1978, MVNP was among the first sites designated a United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage Cultural Site in recognition of the park resources’ outstanding value and importance to all humankind. The park includes a Class I airshed, the highest standards set by Congress under the Clean Air Act. The Park Mesa has been designated a research natural area (RNA). Within the park boundary are more than 5,000 known archeological sites, including 600 cliff dwellings and the mesa top sites of pit houses, pueblos, masonry towers, and farming structures.

Yucca House National Monument is a 33.6-acre prehistoric community generally referred to as “valley pueblo.” It is located on the eastern approach of Sleeping Ute Mountain in Montezuma County in southwestern Colorado. It was established as a national monument in 1919 and is managed by MVNP staff. The monument preserves a large unexcavated pueblo in Montezuma Valley. Site chronology includes an initial occupation ranging from 1050 to 1150 CE followed by a later occupation from 1225 to 1300 CE. Overall, Yucca House is composed of a multistory masonry pueblo that includes a well-preserved great house, multiple towers in small plazas, a bi-wall structure, a significant number of kivas, and a well-delineated ceremonial plaza containing a great kiva, partially enclosed by an imposing wall just to the north.

With a few exceptions, the valley pueblos/community centers all relied on water sources within diverse landscapes. These resources provided a moderately resilient landscape capable of sustaining agriculture and

¹A cuesta is a ridge with a gentle slope (dip) on one side and a steep slope (scarp) on the other.

the lifeways of the Ancestral Pueblo people. Since its establishment, YHNM has remained largely untouched, offering visitors a sense of discovery and preserving the pueblo's beauty and integrity for future generations.

Until recently, fire management activities had been conducted under a Wildfire Emergency Response Plan (WERP) that expired in 2022. The WERP allowed only full wildfire suppression and limited and localized fuels treatments to maintain defensible space in developed areas and around critical infrastructure. With the expiration of the WERP and until a new FMP is developed and implemented, the only fire management option available is full suppression in response to wildfires and routine maintenance of existing defensible space.

SELECTED ACTION AND RATIONALE FOR THE DECISION

SELECTED ACTION

Based on the analysis presented in the EA, the NPS selected Alternative B as the new FMP for the parks. Proposed activities for reducing hazardous fuels include:

- Mowing, limbing trees, trimming, chipping, hauling of materials to pile burn sites, and application of other manual and mechanical treatments, such as chainsaws, hand axes, and masticators to reduce vegetation along backcountry roads, near infrastructure, and around cultural resources to create buffers; maintain defensible space; limit fire spread; protect roads, parking lots, trailheads, and trails; and reinforce safety zones
- Prescribed fire in certain areas to reduce fuels load, reinforce safety zones, and maintain defensible space

Further, the NPS plans to maintain up to a 30-foot cleared buffer on either side of the backcountry roads and certain park resources (such as NPS buildings and sites of interest) for intensive fuels reduction.² Along the Mesa Top Loop Roads, rather than clearing 30 feet, the NPS will remove dead fuels up to 40 feet from the pavement edges, with no full clearing planned.

For structures in the parks, the NPS will likewise maintain a 30-foot buffer. The 30-foot buffer around buildings fuels will be removed but will not include live trees. In addition, beyond that 30-foot buffer, the NPS plans to conduct less intensive treatments, such as limbing, to create space in vegetation and in the tree canopy to reduce the risk of fire spread. These treatments will occur up to 70 feet beyond the initial 30-foot buffer, accounting for a total of up to 100 feet of treatments around park structures.

The NPS will treat approximately 5 miles of the parks' backcountry roads per year. Over the life of the FMP, all 40 miles of backcountry roads in the parks will be treated, and treatments will be maintained as needed. Typically, these treatments along 5 miles of backcountry roads will occur on 15 to 35 acres per year, but treatment acreage will be left to the discretion of park management.

The FMP will also detail the location and extent of prescribed burns and other treatments such as mechanical thinning and manual vegetation removal to be implemented in the parks. At this time, specific treatment sites in YHNM have yet to be identified but will resemble those detailed above (along roads, infrastructure,

²This buffer distance accounts for potential removal of heavy fuel loads along roadsides. It is possible that, in certain areas, this clearance buffer could be less than 30 feet.

cultural resources, parking lots, trailheads, and trails). This EA only analyzes the currently planned manual, mechanical, and prescribed fire treatments. Additional future prescribed burns could be planned and may be addressed through additional site-specific compliance and analysis, as appropriate.

Additional fuels treatments and prescribed fires will be planned on an annual basis for hazardous fuels reduction and vegetation management. Under the FMP, the use of the administrative burn pile zones approved previously under a Categorical Exclusion will continue. In these burn pile zones, slash and cordwood resulting from manual or mechanical treatments are burned to dispose of these materials. There are currently two zones, the Morefield and Chapin Mesa burn zones.

Under the previous WERP, two areas at MVNP underwent prescribed burns: the Bobcat Canyon and eastern Far View Lodge Units. There is some potential for the eastern Far View Lodge Unit to be burned again under the proposed FMP. Both the Far View Lodge Unit and Bobcat Canyon Unit will be evaluated on a 5-year interval to determine whether additional prescribed burns are needed. In addition to the previously burned units, the NPS has proposed two new prescribed burn areas in MVNP under the FMP: Park Point and the western Far View Lodge Unit (Table 1).

Table 1. Acres of Proposed Fire Treatment Types in MVNP

Treatment Action	Acres Impacted
Administrative pile zones prescribed burn	0.5
Bobcat Canyon prescribed burn	7
Park Point prescribed burn	102
Far View Lodge Units (eastern and western) prescribed burn	197*
Prescribed Burn Subtotal	307
Safety zone maintenance	15
Loop Roads fuels reduction	86
Soda Canyon fuels reduction	6
Facility/infrastructure protection	112
Roadside fuels reduction	338
Fuels Reduction Subtotal	557
Total	864

NPS GIS 2022

* The eastern unit is comprised of 67 acres; the western unit is comprised of 130 acres.

At Park Point, the NPS proposes burning around 100 acres in a single day to reduce ground fuel loads and to protect park resources. A ground crew will apply fire by hand. The NPS will use previous burn scars and roads to buffer the burn unit. The burn will occur in the fall or early spring. At the western Far View Lodge Unit, the NPS proposes to burn around 100 acres to reduce Gambel oak fuel loads. Crews will number around 40

persons, with fire possibly applied via unmanned aircraft systems (drones)³ during a week in the fall or early spring. The NPS plans to prescribe treatments in these units once every 10 years. Both areas will involve a return of vegetation, with employment of best management practices (BMPs) to reduce nonnative, invasive plants, and noxious weeds.

Under the FMP, the NPS will manage unplanned fires in the same manner as described under alternative A in the EA. The NPS will employ full suppression to control a fire and prevent it from exceeding a defined perimeter. Common tools and strategies associated with suppression efforts include the following:

- Helicopters and other aircraft to rapidly transport fire crews, equipment, and water and retardant to wildfires, especially in remote locations.
- Wildland fire engines of various types, depending on the terrain and type of fire, to transport fire crews, equipment, and water to wildfires.
- Use of retardant and water to reduce the wildfire's intensity and rate of spread and to enable firefighters on the ground to access the area and construct containment lines more safely near the fire.
- For response readiness, retardant is usually maintained in the fire equipment depending on the type of aircraft. This retardant is typically applied as a first response. Some fixed wing aircraft only carry water, gel, or foam delivery to the sites.
- Hand tools such as chainsaws, axes, and shovels for removing fuels and for digging fire lines.

The following objectives will be priorities during suppression efforts:

- Manage risks to employees and the public
- Contain wildfires at the smallest size possible using tactics consistent with managing the risks to firefighters and the public
- Protect cultural and natural resources from fire and suppression operation impacts
- Protect the parks' infrastructure from fire and suppression operation impacts

As a form of NEPA compliance for analyzing the effects of the proposed action, the FMP provides programmatic support and site-specific analysis of the proposed treatment projects. The goal is to support and streamline implementation of any future site-specific NEPA or NHPA compliance analyses. The FMP does not preclude further NEPA or NHPA compliance analyses at the site-specific level, should site-specific impacts need to be addressed from subsequent treatments that are within the programmatic nature of the selected alternative.

The NPS will evaluate subsequent treatments at the parks to confirm they are within the scope of the selected alternative; if so, the NPS will complete a memo to file before it could implement site-specific projects under this FMP. If the treatments change in scope and are not within the EA analysis, then the NPS will reevaluate them, or additional NEPA/NHPA analyses will be required.

³For guidance on the use of unmanned aircraft systems during prescribed fire treatments, see NPS Resource Manual (RM) 60, Aviation Management, and the Mesa Verde National Park Aviation Management Plan.

RATIONALE FOR DECISION

The NPS has selected Alternative B because it best meets the project purpose and need of the FMP, which incorporates updated federal wildfire practices and evolving science consistent with NPS policies and requirements for fire management. The selected action provides a flexible range of options and activities that the NPS could use to respond to changes in environmental conditions and the specific needs of fire management within the parks. This plan provides programmatic support and site-specific analysis of proposed fuel treatment projects. The goal is to support and streamline implementation of fuel treatment projects and any future site-specific compliance analyses. Under the expired WERP the only fire management option available is full suppression in response to wildfires and routine maintenance of existing defensible space. Without the implementation of an FMP there is a higher risk of severe fires and impacts from suppression that can pose a risk to vegetation, soils, special status species, and cultural resources. The no-action alternative does not meet the project purpose and need and will conflict with the park's mission to preserve park values and resources.

MITIGATION MEASURES

The NPS strongly emphasizes avoiding, minimizing, and mitigating potentially adverse environmental impacts. Therefore, the NPS will require project design, Best Management Practices (BMPs), and minimization and mitigation measures described in Appendix A of this document.

The authority for mitigation for this project comes from laws and policies, including:

- NPS Organic Act (54 U.S. Code § 100101)
- 1978 National Parks and Recreation Act
- Endangered Species Act, as amended (16 USC § 1531 et seq.)
- National Environmental Policy Act (NEPA)
- Council on Environmental Quality Regulations (40 CFR 1500-1508)
- Department of the Interior NEPA Regulations (43 CFR Subtitle A Part 46)
- National Historic Preservation Act (NHPA)
- Wilderness Act (1964) (Pub. L. 88-577; 78 Stat. 890—96)
- Clean Water Act (CWA),
- NPS Management Policies 2006 (chapters 4, 5, and 6)
- Departmental Manual – (516 DM 2)
- Director's Order-(DO)-12 Conservation Planning, Environmental Impact Analysis, and Decision-Making
- DO-14 Resource Damage Assessment and Restoration
- DO 18: Wildland Fire Management
- DO 41: Wilderness Stewardship
- DO-58 Structural Fire Management

AGENCIES AND PERSONS CONSULTED

CIVIC ENGAGEMENT

As part of the planning process, the NPS initiated a 30-day scoping period from January 6, 2022, through February 5, 2022. During this timeframe, the NPS received a total of six pieces of correspondence.

During the civic engagement process, the NPS received comments from the Bureau of Land Management Tres Rios Field Office and Region 8 of the Environmental Protection Agency. The Bureau of Land Management was interested in future opportunities for cooperation given their adjacency to MVNP, and the EPA provided comments requesting that NPS ensure that a number of resources were either considered or analyzed in the EA.

The NPS also received comments from the Hopi Tribe Cultural Preservation Office, the Navajo Nation Heritage and Historic Preservation Department, Pueblo of San Felipe Cultural Preservation Office and the Pueblo of Cochiti. The NPS will continue to perform outreach to these tribes throughout the FMP implementation process and solicit tribal perspectives on management actions on an ongoing basis.

NPS has considered the comments received in developing and focusing the final alternatives and determining which resources will be retained for full analysis in the EA. The EA describes alternative elements that were considered but not brought forward in the EA and the rationale for formally dismissing other resource issues and topics.

PUBLIC COMMENT PERIOD

On July 12th, 2023, the NPS released the Mesa Verde FMP/EA to the public for review and comment. The FMP/EA was available for public review until August 11, 2023. Members of the public were asked to submit their comments electronically through the NPS Planning, Environment, and Public Comment (PEPC) website. Announcements were distributed to the interested public, agencies, Tribal government leadership and Tribal Historic Preservation Officers (THPOs). The NPS received a total of 7 pieces of correspondence during the Public Comment period. Responses to substantive comments on the EA are included in Attachment A and further information on the civic engagement and EA public comments process is included in the project record.

The following agencies and organizations were contacted and invited to participate in the planning process:

- Bureau of Land Management – Tres Rios Field Office
- Bureau of Indian Affairs – Ute Mountain Ute Agency
- Natural Resources Conservation Service – Colorado Field Office
- U.S. Environmental Protection Agency – Region 8
- U.S. Fish and Wildlife Service
- U.S. Forest Service – San Juan National Forest
- Colorado State Historic Preservation Office
- Colorado Parks and Wildlife
- Montezuma County, Colorado

- Colorado State Land Board, Southwest District
- Colorado Department of Transportation – Region 5
- City of Cortez, Colorado
- City of Durango, Colorado
- Town of Dolores, Colorado
- Cortez Area Chamber of Commerce
- Durango Chamber of Commerce
- Mancos Valley Chamber of Commerce
- Mesa Verde Foundation
- Crow Canyon Archaeological Center
- Colorado Natural Heritage Program

Consultation with the Colorado State Historic Preservation Officer (SHPO) was initiated in December of 2022. The park submitted a letter to the SHPO, dated December 5, 2022, to notify the SHPO of the park's intent to use the NEPA public engagement process in lieu of NHPA public engagement, and request concurrence on a finding of No Adverse Effect for the undertaking. In a letter dated December 30, 2022, the SHPO provided concurrence on the programmatic FMP. The park will initiate Section 106 consultation on individual FMP actions, including prescribed burns, mechanical thinning and manual treatment that require project-specific concurrence from the SHPO on the Determinations of Eligibility, the Area of Potential Effect (APE), and finding of effect.

MVNP consults with 26 affiliated and associated Tribes and Pueblos. The fire management planning was presented and discussed at MVNP's annual tribal consultation meetings held in 2016 and 2022. Consultation letters were also sent in November and December 2022 to 26 tribes inviting formal government-to-government consultation on the proposed FMP. Government and THPO representatives of the 26 Tribes and Pueblos were contacted by letter again upon the release of the EA on July 12th, 2023. No tribal comments were received during the comment period.

As the FMP is implemented, the NPS intends to continue to coordinate with tribes in accordance with Section 106 of the NHPA, Executive Order 13175, and President Biden's memorandum dated January 26, 2021, regarding strengthening tribal consultation. This will include providing prior notice to tribes ahead of consultation and potentially coordinating visits to the parks.

MVNP and YHNM consult with the following 26 federally recognized tribes:

- Hopi Tribe of Arizona
- Jicarilla Apache Tribe
- Kewa Pueblo
- Mescalero Apache Tribe
- Navajo Nation
- Ohkay Owingeh
- Pueblo of Cochiti
- Pueblo of Nambe

- Pueblo of Picuris
- Pueblo of Sandia
- Pueblo of Taos
- Pueblo of Acoma
- Pueblo of Isleta
- Pueblo of Jemez
- Pueblo of Laguna
- Pueblo of Pojoaque
- Pueblo of San Felipe
- Pueblo of San Ildefonso
- Pueblo of Santa Ana
- Pueblo of Santa Clara
- Pueblo of Tesuque
- Pueblo of Zia
- Pueblo of Zuni
- Southern Ute Indian Tribe
- Ute Mountain Ute Tribe
- Ysleta del Sur Pueblo

POTENTIALLY AFFECTED ENVIRONMENT

The project area is defined as the administrative boundaries of the MVNP and YHNM. The affected environment includes the current and future expected conditions of the environment, including trends in conditions. The following topics have been considered in evaluating the degree of the effects (40 CFR 1501.3(b)(2)) for the selected action. Beneficial, Adverse, and Short- and Long-term Effects of the Proposed Action are assessed for vegetation, soil resources, certain special status plant and wildlife species, and cultural resources. Please refer to Chapter 3 of the EA for a more detailed discussion of the affected environment and effects.

Resource topics that were dismissed because they did not warrant a full analysis or were found to have no potential for significant impacts include air resources, greenhouse gas emissions and climate change, water resources, wetlands, paleontological resources, wildlife, wilderness, Park Mesa Research Natural Area, visitor use and experience, human health and safety, and traditional cultural properties.

Vegetation Resources

Piñon-juniper woodlands, montane chaparral communities, and desert shrub communities cover much of southern Colorado and the area where both parks are located. Historically, fires burned piñon-juniper woodlands an average of every 400 years. A sharp boundary exists between piñon-juniper woodlands at slightly lower elevations in MVNP's southern portion and the montane chaparral at slightly higher elevations in the north. This pattern is explained, in part, by more extensive fires in the northern area, which favor resprouting shrubs and eliminate the fire-sensitive piñon and juniper. The less frequent occurrence of large fire and resulting persistence of woodland in the park's southern portion may be due, in part, to natural

barriers to fire spread (such as cliffs and sparsely vegetated slopes) to the south and west of the piñon-juniper woodlands.

Studies demonstrate that the recent large fires in MVNP and the vegetation responses to those fires appear to be within the historical range of variation for this ecosystem. For approximately 100 years, fire suppression in the Southwest has increased the density of vegetation in many areas. Suppression in MVNP based on the referenced research has largely prevented stand replacing fires until the recent drought period. The main mechanism for the wildfires in the park has been drought, warmer temperatures, low fuel moisture, and decreased moisture during the monsoon season.

In the ecoregion where the parks are located, it has been established that, due to changing climatic conditions, fires are recurring in shorter time spans. This is due to persistent drought conditions and warmer weather patterns that, in turn, alter the composition and density of vegetation and fuels found in MVNP. The likelihood of large wildfires in the parks is thus increasing due to increased fuels loading and prolonged drought conditions.

Soil Resources

Two major soil groupings are recognized in MVNP. First are soils on the stable mesa tops that developed from aeolian (windblown) deposits. The second group includes steep canyons and hills that are composed of colluvial material fallen from steep slopes and alluvial material washed down from the slopes by intermittent streamflows. The windblown soils, also known as loess, generally have excellent qualities for native vegetation growth.

Soils at YHNM have been identified as moderately saline, clay-rich soils developed from Mancos shale. In near-surface environments, Mancos shale weathers to shale residuum, which resembles soil in its characteristics but retains the physical structure of the shale. Residuum profiles in Mancos shale can range from several feet to dozens of feet thick.

Special Status Species

The NPS used the U.S. Fish and Wildlife Service's (USFWS's) online Information for Planning and Conservation application (IPaC) to determine federally listed fish and wildlife species, including threatened, endangered, and candidate species under the Endangered Species Act, which have the potential to occur in the parks. Seven species were identified (USFWS 2022):

- Mexican spotted owl (*Strix occidentalis lucida*) – Federally Threatened
- Southwestern willow flycatcher (*Empidonax traillii extimus*) – Federally Endangered
- Yellow-billed cuckoo (*Coccyzus americanus*) – Federally Threatened
- Colorado pikeminnow (*Ptychocheilus 9ucius*) – Federally Endangered
- Razorback sucker (*Xyrauchen texanus*) – Federally Endangered
- Monarch butterfly (*Danaus plexippus*) – Candidate Species
- Mesa Verde cactus (*Sclerocactus mesae-verdae*) – Federally Threatened

Apart from the Mexican spotted owl (MSO) and monarch butterfly, there is either little or no suitable habitat for the remaining federally listed species in the parks. The monarch butterfly is the only federally listed

wildlife species carried forward for analysis. Townsend's Big-eared Bat is a State of Colorado, Species of Concern that was brought forward for analysis in the EA.

Several special status plant species are found at the parks that are considered globally or locally rare. Many of these rare and endemic plants within the parks are associated with unique soils, creating soil-flora relationships that are still not fully understood. Thirteen special status plant species have current or historical habitat that overlaps proposed treatment areas. Of particular concern is the Chapin Mesa milkvetch (*Astragalus schmollii*), a flowering herb that is endemic to a small part of southwest Colorado's Mesa Verde cuesta. Specifically, it is found in MVNP and the Ute Mountain Ute Tribal Park.

Cultural Resources

While MVNP is best known for cliff dwellings tucked into sandstone alcoves along canyon walls, there are thousands of cultural resources in the park representing thousands of years of Native American habitation of the Mesa Verde cuesta. Cultural resources in MVNP include prehistoric and historic archeological resources; prehistoric and historic districts, buildings, and structures; and cultural landscapes.

Yucca House is composed of an unexcavated masonry pueblo that was once multiple stories, and includes a well-preserved great house, multiple towers in small plazas, a bi-wall structure, a significant number of kivas, and a well-delineated ceremonial plaza containing a great kiva, partially enclosed by an imposing wall just to the north.

There are several archeological sites within or immediately adjacent to fuels treatment under the FMP. Previous archeological surveys identified 131 archeological sites within or adjacent (within 66 feet) to units designated for prescribed burning and fuels treatment project activities. There are approximately 89 archeological sites located within 66 feet of backcountry roads proposed for thinning activities. Because the FMP does not include specific fuels treatment activities at YHNM, no site-specific identification of archeological sites was conducted for that park.

There are numerous historic structures and buildings in MVNP that reflect important eras or the influence of individuals important in the human history of the park, particularly related to early archeological excavations and tourism. The list of classified structures for MVNP identifies 635 historic structures. Many of these are associated with historic districts— geographically bounded areas that include a concentration of buildings, structures, and sites that are linked historically or aesthetically by plan or development. Four cultural landscapes also intersect with proposed fuels treatment activities. Cultural landscapes are geographic areas, including cultural and natural resources and the wildlife or domestic animals within, associated with a historic event, activities, or person, or that exhibits other cultural or aesthetic values.

THE DEGREE OF EFFECTS OF THE ACTION

The following topics have been considered in evaluating the degree of the effects (40 Code of Federal Regulations 1501.3(b)(2)) for the selected alternative.

BENEFICIAL, ADVERSE, AND SHORT- AND LONG-TERM EFFECTS OF THE PROPOSED ACTION

As described in the EA and briefly summarized below, the selected alternative has the potential for beneficial and adverse impacts on vegetation resources, soil resources, certain special status species, and cultural resources; however, the NPS identified no potential for significant adverse impacts.

Vegetation Resources

Fire suppression impacts on vegetation communities from unplanned ignitions under the selected alternative will be similar to those currently experienced. Full fire suppression activities and use of equipment such as potable water tanks, aircraft landing areas, fire vehicles, fire lines will continue to affect vegetation.

The addition of proposed fuels treatments under the selected alternative will increase impacts on certain vegetation communities. Mechanical treatments to reduce wildfire effects and to maintain defensible space will cause effects lasting from several weeks to several months, during which time treatments will be implemented. The timeframe for effects will be commensurate with the vegetation community in which the treatment will occur. However, for treatments designed to maintain defensible space, impacts will persist for the life of the FMP, as such treatments will be conducted regularly. These kinds of effects will be contained to the area of treatment and not extend beyond prescribed treatment areas.

The NPS will use prescribed fire under specific weather and wind conditions to remove plant biomass from selected areas. Prescribed burning has impacts on plant communities; these impacts are complex and involve many factors, including fire intensity, frequency, time of year, targeted plants and communities, and past fires.

Over the long term (one to six years following implementation of treatments), vegetation within and around treatment areas will likely benefit from treatments. Treatments could indirectly reduce invasive species that add to the fuel load and outcompete native species. Revegetation of the existing and proposed prescribed fire units will employ BMPs to reduce weeds.

Cumulative impacts would be reduced due to the areas receiving treatment and the smaller chance for a large, high-severity wildfire. Impacts on some vegetation would also be temporary, as treatments would allow for revegetation. The impacts associated with the trends and conditions resulting from past, planned, and ongoing action in conjunction with the proposed action would be minimized.

As described in the EA, with implementation of mitigation and minimization measures, and BMPs, no significant impacts are anticipated and the potential for adverse impacts on vegetation from future high-severity fires will be reduced.

Soil Resources

Fire suppression impacts on soils from unplanned ignitions will continue under the selected alternative. Full fire suppression activities and use of equipment such as potable water tanks, aircraft landing areas, fire vehicles, and fire lines will disturb soil resources.

Proposed treatments will affect soil resources through surface disturbances that remove vegetation and decrease ground cover, compact soil, displace soil, and mix soil horizons. When vegetation is removed and ground cover is decreased, the vegetation and ground cover no longer hold the soil in place. This makes the

soil more susceptible to erosion by wind and water. Heavy machinery and vehicle use can compact soil. Prescribed fire could be beneficial to soil nutrient cycling. Through this process, fire encourages new growth of many plant species.

As described in the EA, impacts on soils from fuels treatments will be limited to areas where prescribed burns or treatments were deemed necessary to achieve fire management objectives. These treatments will occur on a variety of soils on slopes of less than 35 percent. Overall, treatment impacts on sensitive soils will occur on approximately 29 acres of fragile soils and 363 acres of soils with severe erosion hazard under selected alternative. This acreage represents less than one percent of the total amount of fragile soils and roughly one percent of the total amount of soils with severe erosion hazard, parkwide. Additionally, many of these treatments will be concentrated along roadsides and infrastructure, therefore minimizing impacts on the overall landscape. As a result, impacts will be limited, considering the relatively low proportion of total affected soils. The NPS will plan and coordinate fuels treatments in such a way as to reduce the adverse impacts on soils.

Overall, the reduction of fuels in the context of comprehensive fire management planning would reduce the potential for cumulative effects on soil resources from high intensity fire, including the direct disturbance of soils, erosion, compaction, fire suppression impacts and the creation of hydrophobic soils. Cumulative impacts would vary depending on the level of fire management, but potential cumulative impacts would be lessened by a reduction in high-severity fires.

Special Status Species

As described in detail in the EA, activities under the selected alternative could adversely impact special status plant species, particularly during prescribed burns and manual and mechanical treatments. Effects of prescribed fire and mechanical treatments include ground disturbance from fire and the associated activities and equipment, which could cause uprooting, injury, or mortality to plants. If vegetation is removed during activities and ground cover is decreased, soil is no longer held in place by the vegetation and ground cover, making it more susceptible to erosion by wind and water. Heavy machinery, equipment, and vehicle use could also compact the soil. This could make seed germination more difficult and allow noxious or invasive species to establish.

Approximately 5.6 percent of suitable Chapin Mesa milkvetch habitat will be impacted from treatments. Although fuels treatments have the potential to negatively impact Chapin Mesa milkvetch, these activities will reduce the extent of high-intensity stand-replacing fires in Chapin Mesa milkvetch habitat. Additionally, the NPS will plan and execute all treatments in accordance with the NPS' Conservation Plan for Chapin Mesa Milkvetch. Most treatment will be associated with the Loop Roads fuels reduction and infrastructure protection. Pre-treatment surveys for these treatment activities will be conducted to reduce the potential impacts on Chapin Mesa milkvetch.

Impacts on monarch butterflies from the selected alternative include an increased risk of displacement, injury, or mortality to individuals from mechanical vegetation treatments and implementing prescribed burns. Prescribed fire activities conducted within occupied monarch butterfly habitat could impact monarch butterflies by causing fire-related injuries or mortality. Specifically, individuals in the larvae stage of development, when mobility is limited, will be at a greater risk than adults. However, fire management activities have shown to be beneficial to monarch butterflies by increasing opportunities for important plant species, such as milkweed and flowering plants, to establish in management areas. Under the selected

alternative, the NPS will implement BMPs and mitigation measures to reduce impacts on monarch butterflies and the associated habitats.

Impacts on Townsend's big-eared bats from the selected alternative include an increased risk of displacement and habitat alteration from mechanical vegetation treatments and implementing prescribed burns. Most of the parks contain shrub, sagebrush, and grassland vegetation, which provide suitable foraging habitat for Townsend's big-eared bats. Impacts to foraging areas could impact individuals, but these impacts will likely only affect small areas of the landscape allowing individuals to find alternate foraging areas. Reducing the risk of wildfires will limit the impacts severe fires will have on important foraging habitat for the species. Because the NPS will not conduct fire suppression and treatment activities in alcoves, overhangs, or mines, impacts on bat roosting habitat will not be anticipated. Therefore, impacts will not lead to population level effects for the Townsend's big-eared bat.

The potential for cumulative effects on status species plants, animals, and their habitats due to wildfire and wildfire suppression would remain but be reduced when compared with the no action alternative. There may be impacts resulting from fuel treatments, but these actions would be planned and conducted by NPS to minimize adverse impacts. The cumulative beneficial impacts under this alternative may vary depending on the species. Special status plant species might thrive under additional treatment while some special status wildlife species might be negatively impacted by the disturbance. However, cumulative impacts on these wildlife species may be temporary and minimal in the long term. Overall, the reduction of fuels in the context of comprehensive fire management planning would help reduce the potential for cumulative impacts on special status species by helping Mesa Verde National Park and Yucca House National Monument reduce the potential for high intensity fires, which over time if left unmanaged, could impact species habitat for the long term.

With implementation of avoidance measures and Best Management Practices significant impacts to Special Status Species will be avoided.

Cultural Resources

There is the potential for fuels treatment activities associated with the selected alternative and the implementation of the FMP to impact cultural resources. There are known archeological resources within or immediately adjacent to proposed fuels treatment activities, including within road corridors, prescribed burn units, safety zones, and areas proposed for defensible space treatments. Following BMPs will ensure that impacts to archeological sites during mechanical and manual fuel removal will be avoided or minimized. Because there have not been intensive archeological surveys covering the proposed prescribed burn areas, the NPS will conduct a pedestrian Class III archeological survey when needed and continue to consult with the SHPO and Tribes.

The potential for wildfire impacts on historic districts, structures, and buildings is anticipated to be reduced under the selected alternative due to fuels treatments that will create defensible space around these resources. This will reduce the potential for the complete loss of buildings and structures during a wildfire and will also minimize the potential for partial burning of structures.

Under the selected alternative, the vegetation, views, and vistas are the main cultural landscape characteristics that could be impacted by implementing the FMP and its associated activities. The removal of vegetation, particularly native vegetation, could cause visual changes, which will temporarily alter the

landscape's overall aesthetic. While fuels treatments could occur within a broad portion of each cultural landscape, impacts are anticipated to be short term (less than one year) and largely limited to vegetation and views. BMPs will further minimize these impacts.

Cultural resources present in treatment areas will be at a reduced risk of impacts from wildfires over the long term (that is, the next decade) due to decreased fuel loading. Ultimately, removing vegetation adjacent to and within archeological sites will have long-term benefits to these resources by reducing fuel loading, leading to reduced fire severity if these resources were burned during a wildfire. Due to the established avoidance and minimization measures, the risk of potential impacts on all cultural resources because of the activities included in the FMP will be reduced such that impacts will be negligible or minor, with overall outcomes creating more beneficial conditions for archeological resources. The impacts associated with the trends and conditions resulting from past, planned, and ongoing action in conjunction with the proposed action will be minimized by completing the Section 106 process for individual fuels treatments.

The potential for cumulative effects on cultural resources over time would remain but be reduced when compared with the no action alternative. Proactive measures to reduce the overall risk of high-intensity wildfire and to protect cultural resources by identifying sensitive sites, reducing fuels within or adjacent to sensitive sites, or creating fuel breaks around sensitive sites would reduce the risk of adverse effects on cultural resources from wildfire. Fuel treatments would be conducted in compliance with the Section 106 process and adverse effects would be resolved. Overall, the reduction of fuels in the context of comprehensive fire management planning would reduce the potential for adverse cumulative effects on cultural resources.

DEGREE TO WHICH THE SELECTED ACTION AFFECTS PUBLIC HEALTH AND SAFETY

There will be no significant impacts on public health and safety. During fuels reduction and wildfire suppression activities, the risks include direct exposure to fire, hazards such as falling trees and increased presence of vehicles and equipment, limited means of ingress and egress, changes in weather and fire behavior, and smoke.

The NPS will implement measures to protect visitors, park employees, and firefighting crews. Firefighting crews will comply with required safety procedures when conducting prescribed fire and fire suppression activities. In the event of a large wildfire, the parks will be evacuated according to the parks' fire evacuation plan and closed to visitors to reduce risks to public health and safety.

The NPS will inform and restrict the public from active work areas and burn unit areas to ensure their safety during fuels reduction activities. The NPS will follow requirements under smoke permits issued by the state of Colorado when conducting prescribed fires to minimize air quality effects on public health and safety.

Over the long term, fire fuels reduction and containment of ignitions in the parks will reduce the risk of catastrophic wildfire in the parks benefitting public health and safety.

EFFECTS THAT WOULD VIOLATE FEDERAL, STATE, TRIBAL, OR LOCAL LAW PROTECTING THE ENVIRONMENT

Implementation of the NPS-selected alternative does not violate any applicable federal, state, or local environmental protection law or requirements imposed for the protection of the environment. The selected alternative will not violate any provision or requirement identified under legislation addressing Mesa Verde National Park and Yucca House National Monument, the Organic Act, or any other subsequent legislation.

Regarding compliance with Section 7 of the Endangered Species Act, there are no actions in the selected alternative that will affect federal listed species or critical habitat in accordance with Section 7 of the Endangered Species Act.

Regarding compliance with Section 106 of the National Historic Preservation Act (NHPA), the NPS determined the programmatic actions proposed in the EA would have “no adverse effect” to historic properties. The Colorado SHPO provided concurrence with “no adverse effect” on December 30, 2022. The park will initiate Section 106 consultation on individual FMP actions, including prescribed burns, mechanical thinning and manual treatment that require project-specific concurrence from the SHPO on the Determinations of Eligibility, the Area of Potential Effect (APE), and finding of effect.

CONCLUSION

Considering the criteria for significance (40 Code of Federal Regulations 1501.3[b]), both regarding the affected environment and the degree of the effects described in the EA and this FONSI, the NPS has determined that the selected action does not constitute a major federal action having a significant effect on the human environment. Additionally, the selected action does not constitute an action that normally requires preparation of an Environmental Impact Statement (EIS) (see Section 1.5.E of the NPS NEPA Handbook). Therefore, an EIS will not be required.

Appendix A

Mitigation Measures

APPENDIX A. MITIGATION MEASURES

Project Design and Minimization/Mitigation Measures

Under the proposed action described in alternative B, the NPS will implement a suite of BMPs and mitigation measures to ensure that effects on resources in the parks that occur while implementing the FMP are reduced or eliminated. BMPs and mitigation measures depend on the affected resource.

- The NPS will prioritize the use of water drops to suppress fires over the use of fire retardant after initial response. However, air tankers are usually preloaded with retardant, and aircraft using water may not be available.
- Except for an imminent emergency situation, the air quality station will be identified for avoidance.
- Resource Advisors, or READs, will be available in preparation for fuel treatments and during wildland fires.
- Alternatives to pile burning in intact natural communities will be explored and implemented to prevent resource degradation and damage.
- Boundaries of administrative burn zones⁴ will be delineated via mapping and on-the-ground markers to avoid expansion out of already disturbed areas.
- The NPS will analyze the use of engineered devices and other measures to address air quality impacts prior to implementing pile burning projects.
- Before any prescribed burn will take place in the project area, a burn plan will be prepared to address burning objectives and operational concerns. The plan will identify mitigation measures necessary to protect site-specific resource values, notification procedures for residents and visitors, and potential fire behavior and precautions.
- All burn plans will have an approved smoke permit issued by the Colorado Air Pollution Control Division. The burn boss will have a copy of issued permits on-site and will monitor and document smoke, as required at the time of the burn. Notification of ignition and daily actual activity reports will be submitted to the Colorado Air Pollution Control Division.
- A qualified burn boss will prepare and approve burn prescriptions before burning begins. The burn boss will be asked to participate in all potential treatment area design and layout activities where prescribed fire is planned to ensure the burn does not adversely affect resources in the area such as cultural resources, special status plant species, or water resources. The treatment objectives, along with the burn unit's design and layout, will be constrained by protection of these resources, and will determine the feasibility of using prescribed fire. Burn prescriptions will be consistent with weather conditions and fuel moistures and will be designed to best achieve desired fuels reduction. Fires will be variable in intensity and consistent with prescribed fire and other resource management objectives.

⁴ These administrative burn zones are identified as Chapin Mesa Administrative Burn Site and Morefield Administrative Burn Site.

- To reduce impacts on water resources, the NPS will use tools to prevent or mitigate the discharge of fine particulates and chemicals into waterways, including but not limited to, sediment traps, silt fences, and regular inspection of treatment areas for erosion.
- Protect aquatic habitat, riparian and wetland areas, meadows, and other sensitive resource areas by defining and avoiding these areas, especially with fire retardant application. Water drops are preferred over fire retardant under all circumstances except for protection of life and safety. Avoidance zones will be identified in fire planning documents and maps and may be flagged on the ground if deemed necessary by resource advisors or management staff.
- Fuels treatments will not occur in wilderness or other specially designated areas, such as the Park Mesa RNA.
- To ensure safety, the NPS will close fuels treatment sites to visitor access prior to conducting treatments.
- Prior to any treatments, sensitive soil sites and areas with slopes over 35 percent will be identified and treatments will be avoided in these areas.

Vegetation Resources

- For all fuels work, all equipment will be cleaned and free from invasive species and seeds prior to entering new work areas.
- Tree trimming or removal will occur in the fall and winter to prevent tree death or beetle infestations (September to March).
- Due to resultant resource degradation, limited pile burning will be recommended. Workers will avoid trampling vegetation and dragging fuels over the ground to minimize disturbance.
- Fuels reduction and prescribed fire in Douglas fir stands will occur only in coordination with and co-recommendation of the Natural Resource Program. Evaluation of the current scientific state of knowledge and evaluation will guide projects.
- Fuels reduction in ponderosa pine stands will occur only in coordination with and co-recommendation of the Natural Resource Program. Evaluation of the current scientific state of knowledge and evaluation will guide projects.
- Disturbed areas will be monitored and treated, as needed, for noxious weeds.
- The on-site dispersal of wood chips from chipping hazardous fuels will only occur after consulting with natural resources staff to ensure chip layers do not suppress plant growth.

Soil Resources

- Prior to any treatments, sensitive soil sites and areas with slopes over 35 percent will be identified. Treatments will be avoided in these areas.
- Trucks and other heavy equipment will remain on hard surfaces to avoid compaction and erosion of soils.
- Erosion control will be implemented around treatments, where needed, to prevent erosion.
- Treatments (manual, mechanical, and fire related) will be avoided in areas where there is the potential for impacts on water resources.

- Soil conditions will be evaluated to ensure that the soil moisture is low or that soils are frozen before management activities begin.
- An approved rehabilitation plan will be required and implemented following wildfires to reduce impacts on soil.

Federally Listed and Special Status Species

- The FMP will incorporate all the recommended avoidance and mitigations described in the NPS' Conservation Plan for Chapin Mesa Milkvetch.
 - Conservation measures include leaving at least 50 percent of canopy cover, reducing the intensity of thinning treatments to maintain ecological characteristics of piñon-juniper woodlands, and coordinating with MVNP resource specialists.
 - Pre-treatment surveys to identify Chapin Mesa milkvetch populations to avoid these areas and reduce the impacts on the species.
- Project areas will be surveyed for *Asclepias* species (milkweed) before project implementation. If identified, the plants will be flagged for avoidance during project implementation (e.g., mowing, prescribed fire, etc.).
- Treatments will not occur during the nesting season for migratory bird species in the project area (April 1 to August 15) to the maximum extent practicable.
 - Activities that are planned to occur during the nesting season will only be done in treatment areas less than 20 acres to minimize the potential for disturbance and will be done in coordination with NPS wildlife biologist. Surveys will be conducted prior to the scheduled activity to determine whether active nests are present. If native bird nests are detected, they will be flagged, and nest tree/vegetation will not be removed.
 - During the nesting season, surveys will be repeated every 7 to 14 days to ensure any newly established nests are detected. An exception will be if nesting habitat is altered through tree mortality to a point where a biologist determines it be low quality or unsuitable habitat. After an initial nesting bird survey is done, work can be conducted through the migratory bird season.
 - Pile burning and slash piling (including hand or mechanical piling of existing material) will be implemented during the nesting season on a case-by-case basis, with concurrence of a NPS wildlife biologist.
- Prior to treatments, surveys for raptors will be conducted to identify locations of individuals or populations of these species and their nests and to allow for the implementation of protection measures. Because it could take several years to fully implement the project, re-survey for raptors may be required annually.
 - If nests of any diurnal raptors are observed in the project area, protective measures will be implemented coordinating with the park wildlife biologist. If a golden bald eagle nest is detected in the project area, additional protective measures may be implemented working directly with NPS wildlife biologists.
- Limits of disturbance will be clearly flagged to reduce potential trampling of native vegetation and soil.
- Prior to any treatments, the site will be surveyed for identification and flagging of threatened, endangered, and rare species.

Cultural Resources

- The NPS will implement several measures to ensure impacts on cultural resources will be avoided or minimized, consistent with policy and direction on preserving these resources.
 - Cultural resource surveys of the appropriate intensity (as determined by a NPS archeologist) will be conducted before any ground-disturbing activities (that is, driving off road, slash removal by dragging, and pile burning) begin to avoid or minimize damage to cultural resources, including archeological sites and TCPs.
 - The NPS will conduct a pedestrian Class III archeological survey and consult with the SHPO and Tribes on the identification of properties before implementing any prescribed burns.
 - Consultation will include evaluation of whether there are areas with perishable archeological resources that should be treated with mechanical/manual fuel reduction instead of a prescribed burn.
 - Adverse impacts on eligible or potentially eligible cultural resources will be avoided during project layout and implementation, as well as through monitoring, in coordination with a NPS archeologist, as necessary.
- Cultural resource surveys of the appropriate intensity (as determined by a NPS archeologist) will be conducted before any ground-disturbing activities (that is, driving off road, slash removal by dragging, and pile burning) begin to avoid or minimize damage to cultural resources, including archeological sites and TCPs.
- Adverse impacts on eligible or potentially eligible cultural resources will be avoided during project layout and implementation, as well as through monitoring, in coordination with a NPS archeologist, as necessary.
- If previously unidentified or unanticipated effects—that do not involve human remains—on historic properties are discovered during the undertaking, the workers will immediately halt all activity that may further disturb the discovery, as determined by a NPS archeologist. Work will cease at the site of discovery until MVNP staff has fulfilled the requirements of 36 CFR 800.13, including consultation with the Advisory Council of Historic Preservation, the State Historic Preservation Office, and Affiliated and Associated Pueblos and Tribes.
- If human remains are inadvertently discovered, MVNP staff will comply with all state and federal regulations, including consultation with the State Historic Preservation Office, according to 36 CFR 800.13. MVNP staff will comply with the stipulations of the General Agreement between MVNP and tribes when consulting with Affiliated and Associated Pueblos and Tribes.
- The NPS will conduct a pedestrian Class III archeological survey and consult with tribes on the identification of properties before implementing any prescribed burns. Consultation will include evaluation of whether there are areas with perishable archeological resources that should be treated with mechanical/manual fuel reduction instead of a prescribed burn.

Paleontological Resources

- Prior to treatments, the NPS will reference existing park information on potential fossil localities and formations to determine the sensitivity for the presence of paleontological resources. If there is the potential for the presence of rare, unusual, or scientifically important fossils to be impacted, BMPs will include surveying treatment areas for fossils and marking and avoiding treatment in those areas.

Attachment 1

Errata and Response to Public Comments

ATTACHMENT 1: ERRATA AND RESPONSE TO PUBLIC COMMENTS**FIRE MANAGEMENT PLAN
ENVIRONMENTAL ASSESSMENT****MESA VERDE NATIONAL PARK AND YUCCA HOUSE NATIONAL MONUMENT
FEBRUARY 2024**

The following errata and responses to selected public comments, together with the FONSI and the EA, describe the final decision of the NPS for the Fire Management Plan (FMP) for Mesa Verde National Park (MVNP) and Yucca House National Monument (YHNM) (collectively, “the parks”).

ERRATA

These errata are to be attached to the Fire Management Plan EA, dated July 12th, 2023, and are intended to correct or clarify statements in the EA other than typographical and minor editorial errors and to address selected comments on these documents received during the public review period. Added text is red font color.

Chapter 2: Alternatives

Section 2.1: No Action Alternative. Page 2-2, Bullet 4: Revised text

- Aerial application of water to suppress fire would be preferred, but the use of chemical foam and retardant would also be allowed by aerial application to minimize wildfire damage to sensitive resources. The use of fire retardant is associated with negative effects on water quality and aquatic life from increased ammonia levels in water bodies and increased nutrient loading. The risks to water quality resulting from the potential impacts of a severe wildfire (e.g., runoff and erosion, large quantities of ash, increased water temperature) would likely be higher than the potential risks posed by the prescribed use of fire retardants. The use of retardant is a decision authorized by the Park superintendent and can be delegated to a resource advisor under the superintendent’s authority and guidelines. (See Section 2.3: Mitigation Measures, and Appendix B: Best Management Practices, Mitigation Measures and Other Commitments.)

Chapter 2: Alternatives, Page 2-4 correction

Table 2-1. Acres of Proposed Fire Treatment Types in MVNP

Treatment Action	Acres Impacted
Administrative pile zones prescribed burn	0.5
Bobcat Canyon prescribed burn	7
Park Point prescribed burn	102
Far View Lodge Units (eastern and western) prescribed burn	197*

Section 2-3: Mitigations. Page 2-7, First Bullet: New Text

- Protect aquatic habitat, riparian and wetland areas, meadows, and other sensitive resource areas by defining and avoiding these areas, especially with fire retardant application. Water drops are preferred over fire retardant under all circumstances except for protection of life and safety. Avoidance zones will be identified in fire planning documents and maps and may be flagged on the ground if deemed necessary by resource advisors or management staff.

Section 2-3: Mitigations. Page 2-7, New Mitigation Measure:

- The NPS will analyze the use of engineered devices and other measures to address air quality impacts prior to implementing pile burning projects.

Chapter 3: Affected Environment and Environmental Consequences

Section 3.4.3: Impacts of Alternative B (Proposed Action). Page 3-22 Paragraph 3: Revised text

Although individuals could be impacted under the **proposed** action alternative, due to the limited abundance and distribution of milkweed in the parks, it is not anticipated the monarch butterflies would be impacted at a population level.

Chapter 4: Consultation and Coordination

Section 4.1: Agency **and Tribal Consultation**. Page 4-1 Paragraph 1: Deleted Text

~~As the FMP is implemented, the NPS intends to continue to coordinate with tribes in accordance with Section 106 of the NHPA, Executive Order 13175, and President Biden's memorandum dated January 26, 2021, regarding strengthening tribal consultation. This would include providing prior notice to tribes ahead of consultation and potentially coordinating visits to the parks. Accordingly, TCPs have been considered but dismissed from the detailed analysis in the EA.~~

Section 4.1: Agency **and Tribal Consultation**. Pages 4-1, Last Paragraph. Additional Text

Consultation with the Colorado State Historic Preservation Officer (SHPO) was initiated in December of 2022. The park submitted a letter to the SHPO, dated December 5, 2022, to notify the SHPO of the park's intent to use the NEPA public engagement process in lieu of NHPA public engagement, and request concurrence on a finding of No Adverse Effect for the undertaking. In a letter dated December 30, 2022, the SHPO provided concurrence on the programmatic FMP. The park will initiate Section 106 consultation on individual FMP actions, including prescribed burns, mechanical thinning and manual treatment that require project-specific concurrence from the SHPO on the Determinations of Eligibility, the Area of Potential Effect (APE), and finding of effect.

During the civic engagement process, the NPS received comments from the Hopi Tribe Cultural Preservation Office, the Navajo Nation Heritage and Historic Preservation Department, Pueblo of San Felipe Cultural Preservation Office, and the Pueblo of Cochiti. Tribal comments related to ensuring that fire management practices not only reintroduce fires into the natural ecosystem but also protect archeological sites and traditional cultural properties. Tribes also requested ongoing consultation on the project.

Government and THPO representatives of the 26 Tribes and Pueblos were contacted by letter again upon the release of the EA on July 12th, 2023. No tribal comments were received during the comment period.

The NPS intends to continue to coordinate with tribes in accordance with Section 106 of the NHPA, Executive Order 13175, and President Biden’s memorandum dated January 26, 2021, regarding strengthening tribal consultation. The NPS will continue outreach and solicit tribal perspectives on fire management activities throughout the remainder of the NEPA process and as any treatment activities are initiated. This would include providing prior notice to tribes ahead of consultation and potentially coordinating visits to the parks. Accordingly, TCPs have been considered but dismissed from the detailed analysis in the EA.

Appendix C: Resources Considered but Dismissed from Further Analysis

Page C-3: Wetlands: Paragraph 3. Additional Text

As noted above, MVNP contains several drainages that could potentially be affected by FMP treatment activities, and YHNM contains three springs that could also be potentially affected by FMP activities. Such impacts would be like those described in the water resources section. Subsurface fed wetlands have been burned previously and have regenerated quickly, within a decade. This may indicate the potential presence of fen wetlands that are receiving significant water and nutrients from a ground source of water. More data is needed on the intensity of these previous burns that may have occurred in fens and impacts to the underlying hydrology and soils as well as the recovery of the fens from such disturbance. The presence and spatial extent of potential fens have not been confirmed but these would be further studied and avoided in project design prior to any treatments.

Page C-11: New Section:

ENVIRONMENTAL JUSTICE

The proposed action was evaluated for adverse human health or environmental effects on minority and low-income populations. The Mesa Verde NP boundary is located immediately east and north of the Ute Mountain Ute reservation, and approximately 8 miles east of the community of Towaoc, Colorado, the location of Ute Mountain Ute tribal headquarters. The Ute Mountain Ute tribe received outreach material for the FMP as described in Chapter 4.

The proposed fire management activities would have localized and temporary effects to air quality that may extend to the community of Towaoc. By following Colorado Department of Public Health and Environment smoke permit requirements these effects would be minimized and would not be inequitably distributed to minority or low-income populations or communities. None of the resources considered for analysis have potential for impacts outside of the park boundaries. Based on these conditions and analysis Environmental Justice was considered but dismissed from further analysis in this assessment.

RESPONSE TO PUBLIC COMMENTS

On July 12, 2023, the NPS released the Fire Management Plan EA to the public for review and comment. The EA was available for public review until August 11, 2023. Announcements were distributed to the interested public, agencies, Tribal government leadership and Tribal Historic Preservation Officers (THPOs). All were

asked to submit their comments electronically through the NPS Planning, Environment, and Public Comment (PEPC) website.

The NPS received a total of seven pieces of correspondence during the Public Comment period. One additional letter and attachment was a duplicate submission. No commentors expressed a preference for the no-action alternative. In addition to those expressing a preference for the proposed action, several substantive comments were received requesting changes to the plan, the affected environment, and/or the impact analysis.

Responses to selected comments on the EA are summarized and included here:

Proposed Additional Alternative Element

1. **COMMENT:** Commenter questioned the lack of a detailed plan for YHNM and the slow pace of anticipated fuel treatments.

RESPONSE: This EA provides programmatic support and site-specific analysis of the proposed treatment projects discussed in the FMP. The goal is to support and streamline implementation and any future site-specific NEPA or NHPA compliance analyses and not to preclude future treatments. This EA only analyzes the currently planned manual, mechanical, and prescribed fire treatments. At this time, specific treatment sites in YHNM have yet to be identified.

Climate Change

1. **COMMENT:** The commentor states that the NEPA review also must identify the current and projected future state of the affected environment without the proposed action (i.e., the no action alternative) and notes that NEPA requires more than a statement that emissions from a proposed action represent only a fraction of domestic or global emissions.

RESPONSE: The difference between the no action and the proposed action are qualitatively addressed on page C-2. Compared to total GHG emissions in the state, the emissions from the proposed action would have a negligible impact on emissions in the state of Colorado. and the emissions from the project would be inconsequential at a local, regional, and global scale. The proposed action would not measurably detract from achieving relevant climate action goals and commitments, including Federal goals, international agreements, state, or regional goals. The commentor suggests an approach to an issue that is disproportional to the effects of the proposed action, which would be inconsistent with guidance for preparing concise EAs that focus on significant issues; therefore, no changes were made in response to this comment.

Air Resources

1. **COMMENT:** Commenter questioned the adequacy of the affected environment discussion and analysis of Air Quality in the EA.

RESPONSE: This EA provides programmatic support and site-specific analysis of the proposed treatment projects discussed in the FMP. As a Class 1 area there is no need to further define the quality of the resource considering the short-term and intermittent treatment actions and associated

site-specific reviews anticipated. Generally, FMP actions would reduce potential impacts on air quality from treatment and through quick response actions that would reduce the potential for wildland fire to get out of control. The Air Quality section of Appendix C details the process for initiating and reviewing proposed treatments at the appropriate time. Due to the state-issued burn permit, the associated constraints for prescribed fire, and the minimization of impacts during suppression, the proposed action would have temporary and localized effects on air quality and visibility. The commentor suggests an approach to an issue that is disproportional to the effects of the proposed action, which would be inconsistent with guidance for preparing concise EAs that focus on significant issues; therefore, no changes were made in response to this comment.

2. **COMMENT:** Commenter recommended that the two existing approved administrative burn pile zone use engineered devices, such as Air Curtain Destructors, to reduce smoke and air-borne embers that could be a source of unintended off-site ignition.

RESPONSE: Comment noted. The parks recognize the potential value of the use of engineered devices. The impacts of current and planned operation of the burn pile zones will be analyzed as standalone actions and appropriate measures to address air quality impacts will be included in the NEPA analysis and associated decision documents.

3. **COMMENT:** Commenter recommends providing an estimate of possible air pollutants for each of the prescribed burn areas (i.e., Far View Lodge, Bobcat Canyon, Park Point).

RESPONSE: The Air Quality section of Appendix C details the process for reviewing proposed treatments at the appropriate time prior to initiating the action. This includes preparing a worksheet to apply for a smoke permit from the state of Colorado to understand estimated emissions.

Cultural and Archaeological Resources

1. **COMMENT:** Commenter requested that the Final EA include any updates to tribal, THPO and SHPO consultation that occur after the release of the Draft EA.

RESPONSE: Updates on consultation with tribes and SHPO on the NHPA are included in the FONSI and as an errata to the EA.

Sacred Sites and Tribal Perspectives

1. **COMMENT:** Commenters request that the EA provide additional detail on the process and outcome of government-to-government consultation between NPS and the tribes.

RESPONSE: A comprehensive public involvement plan was not necessary or prepared. As described in Chapter 4, outreach was conducted to 26 tribes and other communities as part of civic engagement scoping. Subsequent tribal outreach was conducted with the distribution of the EA. No significant environmental or human health effects are anticipated. Updates on consultation with tribes and SHPOs are included in the FONSI and as an errata to the EA.

Environmental Justice

1. **COMMENT:** Commenter requested that the EA incorporate a higher level of engagement to identify, analyze and address through mitigation disproportionate adverse human health and environmental effects.

RESPONSE: Comment noted. Outreach to local communities, including minority and low-income communities, was consistent with NPS NEPA guidance and practice. The analysis and mitigation suggested is disproportionate to the potential for impacts associated with this proposed action. No significant environmental or human health effects are anticipated. No concerns were heard from the public regarding disproportionately affected communities. Additional clarification of environmental justice dismissal is included in the errata.

Planning Process and Policy

1. **COMMENT:** Commenter questioned the treatment of certain resource issues as "considered but dismissed from further analysis" in the Draft EA and expressed the need for more detailed analysis at this time.

RESPONSE: Comment noted. This EA provides programmatic support and site-specific analysis of the proposed treatment projects discussed in the FMP. The commentor suggests an approach that is disproportional to the effects of the proposed action on the dismissed resources, which would be inconsistent with guidance for preparing concise EAs that focus on significant issues. Resources requiring a detailed analysis were formally reviewed internally to determine those resources and issues that were most relevant to the scope of the proposed FMP EA. Reference is made throughout the EA to the process to be followed for initiating treatments, relevant minimization and mitigation measures incorporated in the FMP and any applicable BMPs. Therefore, no changes were made in response to this comment.

Water Resources

1. **COMMENT:** Commenters requested project design criteria on mitigation and monitoring measures to reduce the potential for impacts to parks' water resources while implementing FMP activities: specifically potential impacts resulting from use of fire retardants and potential impacts on fen wetlands.

RESPONSE: Additional text added to the errata clarifying the types of impacts on water quality that may result from the use of retardants for wildfire response. The FMP acknowledges that the use of retardants may be unavoidable in some cases. The EA includes minimization measures and BMPs to reduce risks to water quality. Data on the potential presence of fens and the effects of past intense fires on potential fens has not been developed. Additional text added to the errata specifically discussing avoidance of fen wetlands when developing treatment plans.

Attachment 2

Non-Impairment Determination

ATTACHMENT 2: NON-IMPAIRMENT DETERMINATION

FIRE MANAGEMENT PLAN ENVIRONMENTAL ASSESSMENT

MESA VERDE NATIONAL PARK AND YUCCA HOUSE NATIONAL MONUMENT FEBRUARY 2024

By enacting the NPS Organic Act of 1916 (Organic Act), Congress directed the US Department of the Interior and the National Park Service (NPS) to manage units “to conserve the scenery, natural and historic objects, and wildlife in the System units and to provide for the enjoyment of the scenery, natural and historic objects, and wildlife in such manner and by such means as will leave them unimpaired for the enjoyment of future generations” (54 USC 100101). NPS *Management Policies 2006*, Section 1.4.4, below, explains the prohibition on impairing park resources and values:

“While Congress has given the Service the management discretion to allow impacts within parks, that discretion is limited by the statutory requirement (generally enforceable by the federal courts) that the Park Service must leave park resources and values unimpaired unless a particular law directly and specifically provides otherwise. This, the cornerstone of the Organic Act, establishes the primary responsibility of the National Park Service. It ensures that park resources and values will continue to exist in a condition that will allow the American people to have present and future opportunities for enjoyment of them.”

An action constitutes impairment when its impacts “harm the integrity of park resources or values, including the opportunities that otherwise will be present for the enjoyment of those resources or values” (NPS 2006, Section 1.4.5). To determine impairment, the NPS must evaluate the particular resources and values that will be affected; the severity, duration, and timing of the impact; the direct and indirect effects of the impact; and the cumulative effects of the impact in question and other impacts. An impact on any park resource or value may constitute impairment, but an impact would be more likely to constitute an impairment to the extent that it affects a resource or value whose conservation is:

- Necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park
- Key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park
- Identified in the park’s general management plan or other relevant NPS planning documents as being of significance (NPS 2006, Section 1.4.5)

Fundamental resources and values for Mesa Verde National Park (MVNP) and Yucca House National Monument (YHNM) (collectively, “the parks”) are identified in its enabling legislation, the Foundation for Planning and Management Statement, and the Long-Range Interpretive Plan. Based on a review of these documents, fundamental resources and values at the parks that are specifically relevant to the Fire

Management Plan include the archeological landscapes, scenic resources, natural resources, rare plants, and the wilderness landscape at MVNP.

A non-impairment determination has been prepared for each impacted resource that was carried forward for detailed analysis in the EA. These include vegetation, soils, special status species, and cultural resources.

Non-impairment determinations are not necessary for human health and safety, or visitor use and experience. This is because impairment findings relate to park resources and values; these impact topics are not generally considered park resources or values, according to the Organic Act.

This non-impairment determination has been prepared for the selected alternative, as described in the *Finding of No Significant Impact for the Mesa Verde National Park and Yucca House National Monument Fire Management Plan*.

VEGETATION

Fire suppression impacts on vegetation communities from unplanned ignitions under the selected alternative would be similar to those currently experienced. Full fire suppression activities and use of equipment such as potable water tanks, aircraft landing areas, fire vehicles, fire lines would continue to affect vegetation. The addition of proposed fuels treatments under the selected alternative would increase impacts on certain vegetation communities. Mechanical treatments to reduce wildfire effects and to maintain defensible space would cause effects lasting from several weeks to several months, during which time treatments would be implemented. These kinds of effects would be contained to the area of treatment and not extend beyond prescribed treatment areas.

However, over the long term (one to six years following implementation of treatments), vegetation within and around treatment areas would benefit from treatments. Treatments would indirectly reduce invasive species that add to the fuel load and outcompete native species. Treatments are largely proposed around disturbed areas (roadsides and infrastructure), where many invasive species, such as cheatgrass, are known to persist. The NPS assumes this reduction would benefit native species by reducing competition and improving the spacing among vegetation and vegetation types, which would be overall closer to historical baseline conditions. Cumulative effects would be reduced due to the areas receiving treatment and the smaller chance for a large, high-severity wildfire. Impacts on some vegetation would also be temporary, as treatments would allow for revegetation. The impacts associated with the trends and conditions resulting from past, planned, and ongoing action in conjunction with the proposed action would be minimized.

While adverse impacts to vegetation would occur during fire suppression activities and prescribed burns, these activities would contribute beneficially by reducing the potential for adverse impacts on vegetation from future high-severity fires. Therefore, vegetation resources will continue to be present for the enjoyment of current and future generations and the NPS has determined that the selected action will not result in impairment of natural vegetation and park landscapes.

SOIL RESOURCES

Fire suppression impacts on soils from unplanned ignitions would continue under the selected alternative. Fire suppression activities and use of equipment such as potable water tanks, aircraft landing areas, fire

vehicles, fire lines would disturb soil resources. Proposed treatments would affect soil resources through surface disturbances that remove vegetation and decrease ground cover, compact soil, displace soil, and mix soil horizons. Further, dragging of materials for in situ pile burning could also potentially impact soil resources through displacement and erosion.

Fuels treatments under the selected alternative could impact soils and reduce the likelihood where hydrophobic conditions could occur during prescribed burns and manual and mechanical treatments. Trucks and other equipment used during fuels treatments could cause compaction or erosion. Prescribed burning can enhance the cycling of nutrients by converting surface mulch and plant litter to ash and by making many nutrients soluble and available for plant growth. Through this process, fire encourages new growth of many plant species. Overall, the NPS would plan and coordinate fuels treatments in such a way as to reduce the adverse impacts on soils.

Impacts on soils caused by fire suppression activities and fuels treatments would be limited to areas where prescribed burns or treatments were deemed necessary to achieve fire management objectives. These treatments would occur on a variety of soils on slopes of less than 35 percent. This is because, per the Best Management Practices (BMPs) presented in the selected alternative, prior to any treatments, the NPS would identify areas with slopes over 35 percent and avoid treatments in these areas. Some amount of both fragile and highly erodible soils could still be impacted under the selected alternative. Such impacts, including soil compaction and displacement, as well as mixing of soil horizons and compaction, would persist throughout the period of active prescribed burns and manual and mechanical treatments. This could persist as briefly as a few hours to as long as a few weeks or months.

Fragile soils comprise a small proportion (3 percent or less) of soils present in all the treatment areas, except for the Bobcat Canyon area, where roughly 100 percent of soils present are fragile soils. Of all treatment areas, soils with severe erosion hazard comprise the largest proportion of soils present in the Roadside Fuel Reduction, Far View Lodge Units, and Park Point areas, where they represent roughly 41, 67, and 69 percent of soil types present in those areas, respectively (NPS GIS 2022; NRCS 2022).

Overall, treatment impacts on sensitive soils would occur on approximately 29 acres of fragile soils and 363 acres of soils with severe erosion hazard under selected alternative. This acreage represents less than one percent of the total amount of fragile soils and roughly one percent of the total amount of soils with severe erosion hazard, parkwide. Additionally, many of these treatments would be concentrated along roadsides and near infrastructure, therefore minimizing impacts on the overall landscape. As a result, impacts would be limited, considering the relatively low proportion of total affected soils. Overall, the reduction of fuels in the context of comprehensive fire management planning would reduce the potential for cumulative effects on soil resources from high intensity fire, including the direct disturbance of soils, erosion, compaction, fire suppression impacts and the creation of hydrophobic soils. Cumulative impacts would vary depending on the level of fire management, but potential cumulative impacts would be lessened by a reduction in high-severity fires. Therefore, the level of impact on soils will not harm the integrity of park resources for the enjoyment of current and future generations and the NPS has determined that the selected action will not result in impairment of soils.

SPECIAL STATUS SPECIES

Plant Species

Activities under the selected alternative could adversely impact special status plant species, particularly during prescribed burns and manual and mechanical treatments. Effects of prescribed fire and mechanical treatments include ground disturbance from fire and the associated activities and equipment, which could cause uprooting, injury, or mortality to plants. If vegetation is removed during activities and ground cover is decreased, soil is no longer held in place by the vegetation and ground cover, making it more susceptible to erosion by wind and water. Heavy machinery, equipment, and vehicle use could also compact the soil. This could make seed germination more difficult and allow noxious or invasive species to establish.

Impacts on special status plants would not be equal for all species. Prescribed burns would likely not impact plants that require rocky soils, cliffs, or outcrops, such as the Mesa Verde aletes (*macdougalii* ssp. *Breviradiatus*), Cliff Palace milkvetch, and San Juan gilia. Species that require woodlands, grasslands, and open spaces, such as the Arizona gumweed, alkaline pepperwort, Chapin Mesa milkvetch, and shortstem beardtongue, could be impacted since these habitats are more likely to be managed by prescribed burns and fuels treatments. Species such as large-flower globemallow may be more vulnerable to impacts from treatments. This is because these species are known to occur in disturbed areas, such as along roadsides where treatments are proposed (approximately 338 acres of roadside fuel reduction). Other species such as Mesa Verde stickseed, alkaline pepperweed, and spectacle-pod may also be impacted disproportionately since these species occur in shrublands and piñon-juniper communities, where most treatments are proposed.

Impacts from the selected alternative could have beneficial impacts on some special status plant species. Prescribed fire has been shown to be a useful tool in combating invasive species and maintaining vegetation communities (DiTomaso and Johnson 2006). Also, effective treatments, such as prescribed burns, could reduce the risk of high-intensity wildfires that could severely affect special status plant species. Prescribed fire could be beneficial to soil nutrient cycling by converting surface mulch and plant litter to ash and by making many nutrients soluble and available for plant growth. Through this process, fire encourages new growth of many plant species. However, continued treatment of these areas would be required to maintain suitable conditions for native species (Rondeau et al. 2022). Therefore, areas requiring multiple treatments would likely experience these benefits while areas requiring only one treatment would not be expected to benefit in the same manner.

A reduction in fuels would also likely benefit special status plant species by decreasing the risk of severe fire. Because special status species often occupy specific habitats and contain low numbers of individuals or reduced ranges, a severe fire could eliminate or greatly reduce entire populations.

These impacts do not represent population-level impacts on or affect the stability of the species within the park.

Mechanical treatments and prescribed burns could have impacts on special status plant species. Impacts include trampling or disturbance that could cause injury or mortality to plants. However, over time, these activities could reduce the risk, severity, and intensity of wildfire in treatment areas. Additionally, these activities could reduce competition from other species, specifically invasive species that are known to

outcompete native species. Effects on special status plant species from implementing the selected alternative will not harm the integrity of park resources for the enjoyment of current and future generations. The potential for cumulative effects on status species plants and their habitats due to wildfire and wildfire suppression would remain but be reduced when compared with the no action alternative. There may be impacts resulting from fuel treatments, but these actions would be planned and conducted by NPS to minimize adverse impacts. The cumulative beneficial effects under this alternative may vary depending on the species. Some special status plant species might thrive under additional treatment while others might be negatively impacted by the disturbance. Overall, the reduction of fuels in the context of comprehensive fire management planning would help reduce the potential for cumulative impacts on special status plant species by helping Mesa Verde National Park and Yucca House National Monument reduce the potential for high intensity fires, which over time if left unmanaged, could impact species habitat for the long term. Therefore, the NPS has determined that the selected action will not result in impairment of special status plant species and rare plants and is consistent with maintaining the fundamental resources and values of the parks.

Animal Species

Fuels treatments and prescribed burns under the selected alternative could cause impacts on Townsend's big-eared bats, such as disturbance, avoidance, and habitat alteration. However, treatments have shown to be beneficial by reducing the severity of wildfires. Vegetation communities' response to wildfire and prescribed burns depend on a variety of factors, including pre-fire conditions, precipitation, species composition, and the local fire regime. Compared with prescribed burns, however, severe wildfires would impact larger areas and require longer to recover overall. Reducing the risk of wildfires would limit the impacts severe fires would have on important foraging habitat for the species.

Prescribed fires in foraging areas could impact individuals, but these impacts would likely only affect small areas of the landscape allowing individuals to find alternate foraging areas. Additionally, no impacts to roosting habitat would be anticipated. Therefore, impacts would not lead to population level effects for the Townsend's big-eared bat.

Impacts on monarch butterflies from the selected alternative include an increased risk of displacement, injury, or mortality to individuals. This is due to adding mechanical vegetation treatments and implementing prescribed burns. Prescribed fire activities conducted within occupied monarch butterfly habitat could impact monarch butterflies by causing fire-related injuries or mortality. Specifically, individuals in the larvae stage of development, when mobility is limited, would be at a greater risk than adults. However, the NPS could alter these burns to exclude areas where milkweed or flowering plants that provide food sources have been identified. Additionally, as noted in the proposed action, the NPS could schedule burns to take place in the fall and winter, when monarch butterflies are known to be absent. Monarch butterflies could also avoid areas where the NPS is conducting fuels management or fire-suppression activities.

Effects of prescribed fire and mechanical treatments also include ground disturbance, which can cause uprooting, injury, or mortality to milkweed and flowering plants important to monarch butterflies. Although immediate impacts could include the loss of individual plants, some species of milkweed have been shown to quickly regrow after a prescribed burn. Restoring historical fire regimes, including the use of prescribed fire, has been shown to create milkweed patches and corridors.

Additionally, compared with prescribed burns, severe wildfires would likely impact larger areas of suitable habitat. Under the selected alternative, the NPS would implement BMPs and mitigation measures to reduce impacts on monarch butterflies and their associated habitats.

Although individuals could be impacted under the selected alternative, due to the limited abundance and distribution of milkweed in the parks, it is not anticipated the monarch butterflies would be impacted at a population level.

Effects on special status animal species from implementing the selected alternative will not harm the integrity of park resources for the enjoyment of current and future generations. The potential for cumulative effects on status species animals and their habitats due to wildfire and wildfire suppression would remain but be reduced when compared with the no action alternative. There may be impacts resulting from fuel treatments, but these actions would be planned and conducted by NPS to minimize adverse impacts. The cumulative beneficial impacts under this alternative may vary depending on the species. Some special status animal species might be negatively impacted by the disturbance, however cumulative impacts on these wildlife species may be temporary and minimal in the long term. Overall, the reduction of fuels in the context of comprehensive fire management planning would help reduce the potential for cumulative impacts on special status species by helping Mesa Verde National Park and Yucca House National Monument reduce the potential for high intensity fires, which over time if left unmanaged, could impact species habitat for the long term. Therefore, NPS has determined that the selected action will not result in impairment of special status animal species and is consistent with maintaining the fundamental resources and values of the parks.

CULTURAL RESOURCES

The selected alternative emphasizes fuels treatments around park infrastructure and resources. Many of these are cultural resources, so the permanent loss of resources would be unlikely, and adverse impacts would be minimized. There is the potential for fuels treatment activities associated with the selected alternative and the implementation of the FMP to impact cultural resources, particularly activities such as thinning trees, removing vegetation (mechanically and by hand), and conducting in-situ pile burning and prescribed burning. There are known cultural resources present within or adjacent to areas proposed for fuels treatments under the selected alternative. The NPS would implement several measures to ensure impacts on cultural resources would be avoided or minimized, consistent with policy and direction on preserving these resources.

The proposed areas for fuel treatments have not been intensively surveyed for archeological resources. NPS will complete National Historic Preservation Act Section 106 compliance before any prescribed burns are undertaken, including identification of historic resources and consultation with Tribes and the SHPO. The NPS would mitigate the impacts on cultural resources through a variety of BMPs, refraining from, where possible, additional ground-disturbing activities in known sensitive cultural resource sites; and continuing, where possible, to increase the inventory and monitoring program for cultural resources. This includes conducting surface and subsurface testing, as necessary, to document the potential for archeological resources or to understand the presence, extent, and significance of the cultural resources found.

Archeological resources present in treatment areas would be at a reduced risk of impacts from wildfires over the long term (that is, the next decade) due to decreased fuel loading.

Impacts on historic districts, structures, and buildings from implementing the FMP would be associated with the removal of vegetation from within and around these resources. There would be visual impacts associated with removing trees and vegetation, the density of the surrounding pinyon-juniper forest would be thinned. However, the setting and viewsheds of the cultural landscapes would not be altered to the extent that their historic integrity would be diminished.

Under the selected alternative, the vegetation, views, and vistas are the main cultural landscape characteristics that could be impacted by implementing the FMP and its associated activities. Impacts on other landscape characteristics would not be anticipated. The removal of vegetation, particularly native vegetation, could cause visual changes, such as areas of disturbances or bare spots, piles of removed vegetation, or the presence of equipment. These changes would temporarily alter the landscape's overall aesthetic. While fuels treatments could occur within a broad portion of each cultural landscape, impacts are anticipated to be short term (less than one year) and largely limited to vegetation and views.

Burn scars could intrude into important viewsheds, especially from roads associated with the cultural landscapes. However, prescribed burns tend to burn at a lower temperature than wildfires; therefore, prescribed burns should not leave burn scars that last as long as higher-severity wildfires. Areas burned during prescribed fires could be visible for several years, however, depending on the frequency and timing of burning, avoidance and minimization measures would reduce the potential impact of these activities on cultural landscapes. Over time, the combination of avoidance and minimization measures, coupled with the removal of invasive plant species, could benefit the overall cultural landscape.

Effects on cultural resources from implementing the selected alternative will not harm the integrity of park resources for the enjoyment of current and future generations. The potential for cumulative effects on cultural resources over time would remain but be reduced when compared with the no action alternative. Proactive measures to reduce the overall risk of high-intensity wildfire and to protect cultural resources by identifying sensitive sites, reducing fuels within or adjacent to sensitive sites, or creating fuel breaks around sensitive sites would reduce the risk of adverse effects on cultural resources from wildfire. Fuel treatments would be conducted in compliance with the Section 106 process and adverse effects would be resolved. Overall, the reduction of fuels in the context of comprehensive fire management planning would reduce the potential for adverse cumulative effects on cultural resources. Therefore, NPS has determined that the selected action will not result in impairment of cultural resources and landscapes and is consistent with maintaining the fundamental resources and values of the parks.

CONCLUSION

This analysis was guided by best available science and scholarship, advice from subject matter experts and others who have relevant knowledge and experience, and the results of public involvement activities. The NPS has determined that implementing the selected alternative will not impair the resources or values of MVNP and YHNM, as these resources would continue to be available for the enjoyment of present and future generations. This conclusion is based on the parks' purpose and significance, a thorough analysis of the environmental impacts described in the EA, comments provided by the public and others, and the professional judgment of the decision-maker, guided by the direction of *NPS Management Policies 2006*.

REFERENCES

- DiTomaso, J. M., and D.W. Johnson (editors). 2006. The Use of Fire as a Tool for Controlling Invasive Plants. Cal-IPC Publication 2006-01. California Invasive Plant Council, Berkeley, California.
- NPS (US National Park Service). 2006. US National Park Service, Management Policies 2006. Internet website: <https://www.nps.gov/orgs/1548/upload/ManagementPolicies2006.pdf>. Washington, DC.
- NPS GIS (National Park Service Geographic Information Systems). 2022. Mesa Verde National Park and Yucca House National Monument rare plants. Unpublished data. Mesa Verde National Park.
- NRCS (Natural Resources Conservation Service). 2022. Web Soils Survey. Fragile Soil Index. Cortez Area, Colorado; Parts of Dolores and Montezuma Counties; and Ute Mountain Area, Colorado and New Mexico.
- Rondeau, R. J., D. G., Anderson, J. E. Handwerk, and S. Tova. 2022. "Post-fire effects on the globally imperiled Chapin Mesa milkvetch (*Astragalus schmollii*) 2001–2019." *Natural Areas Journal* 42(1):4–17.