



**National Park Service
U.S. Department of the Interior**

**Oregon Caves National Monument and Preserve
Regions 8, 9, 10 and 12**

**FINDING OF NO SIGNIFICANT IMPACT
Fire Management Plan**

Recommended:

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Date

Approved:

Frank Lands
Regional Director, Interior Regions 8, 9, 10 and 12, National Park Service

Date

1. Introduction

In compliance with the National Environmental Policy Act (NEPA), the National Park Service (NPS) prepared an environmental assessment (EA) to examine alternative actions and environmental impacts associated with the Oregon Caves National Monument and Preserve (ORCA, Monument and Preserve, or park) Fire Management Plan (FMP) update. The purpose of the FMP update is to identify and prioritize manual, mechanical, and prescribed fire treatments; and promote a fire management strategy based on natural ecological processes and conditions characteristic of park ecosystems. The FMP update is needed because the current FMP applies only to the 480-acre National Monument portion of the park: no fire management plan exists for the 4,070-acre Preserve added to the park in 2014. The FMP update is also needed to conform to current NPS FMP policy, improve fire and fuels management activities, and, ultimately, to improve landscape resilience and reduce the likelihood of catastrophic wildfires in the future. The proposed FMP update and treatment plan will meet the needs of current NPS policy and ORCA resource management objectives.

This finding of no significant impact (FONSI) documents the decision of the National Park Service to select the preferred alternative for the FMP update at ORCA. The statements and conclusions reached in this FONSI are based on documentation and analysis provided in the 2022 Oregon Caves National Monument and Preserve, Fire Management Plan/Environmental Assessment (FMP/EA) and associated decision file. To the extent necessary, relevant sections of the FMP/EA are incorporated by reference below.

2. Selected Alternative and Rationale for the Decision

Based on the analysis presented in the FMP/EA, the National Park Service selected Alternative 3, the NPS-preferred alternative.

Under Alternative 3, Manual & Mechanical Treatments, fire management and forest resiliency treatments will include wildland fire suppression, manual fuels reduction, pile burning and broadcast prescribe fire, and mechanical reduction (e.g., use of heavy equipment such as masticators, feller bunchers, tracked chippers, and mini excavators) in specific areas (e.g., slopes less than 30%, outside riparian and sensitive habitat buffers and avoidance areas, with rehabilitation of all tracks/ruts/depressions with appropriate erosion control measures). Fuels reduction mechanical equipment may be utilized on approximately 649 acres of the total 1,073 acres in the previous and currently planned fuels treatment areas. Additionally, there are approximately 765 acres of potential treatment areas on ground that is <30% slope and in specific forest types, where similar projects may be developed in the future (EA pgs. 5-6). No commercial timber extraction is proposed in this alternative.

Details of the proposed fire management treatments are provided in Appendix A of the FMP/EA (FMP/EA pgs. A-10 to A-12). An edited extract of the FMP/EA Appendix A text is provided below.

Manual Treatments – Including Hand and Prescribed Fire Fuels Treatments (Non-Mechanical)

ORCA will utilize hand thinning and prescribed fire (broadcast and pile burning) to alter fuel conditions around interface and developed areas, in strategic locations of potential control locations, to protect public and staff ingress and egress, to restore fire as an ecosystem process, and to increase forest resiliency in light of changing climates and fire regimes. Projects may be re-treated to control re-sprouting vegetation and maintain previous treatments as needed, generally on a 3 to 10-year interval depending on abundance of understory shrubs and resprouting hardwoods, aspect, and elevation. There are approximately 1,073 acres of previous treatment areas and currently planned fuels treatment projects. Mechanical equipment may also be considered in these treatment areas, limited to areas that meet criteria described in the Mechanical Treatments section, below.

Priorities for hand and prescribed fire treatments include the following:

1. Roadside shaded fuel breaks: 200 feet, as measured horizontally from the road centerline, of fuel reduction work on each side of two critically important emergency evacuation routes, Caves Hwy 46, and NPS-960 Rd, as well as, Upper Roadside Fuel Break extending across the northern boundary (See Figure A-8). Includes thinning of up to 12-inch diameter trees, maintaining at least 70% canopy cover of overstory trees, and pile or broadcast burning, chipping or similar slash disposal methods. Piles will be burned during wet portions of the fall, winter, and spring months using an approved burn plan and smoke management plan. Less common tree species will be retained (e.g., sugar pines, deciduous oaks), while a majority of thinned trees will be shade-tolerant conifers and hardwoods that have regenerated during the fire suppression era.
2. The creation of 300 feet of defensible space around all structures, including thinning from below, piling and burning, broadcast burning, chipping, and limbing to increase canopy base heights, reduce surface fuel connectivity, and increase clearance around structures. Hand and machine piles will be burned during wet portions of the fall, winter, and spring months using an approved burn plan and smoke management plan; 70% canopy cover will be maintained where present.
3. Hazardous fuel reduction work beneath selected forest stands by thinning from below while maintaining 70% canopy cover where it exists. Up to 12-inch diameter trees followed by pile or broadcast burning. Selected larger size classes of dead trees up to 16-inch diameter may be removed in pockets of heavy fuels with an abundance of insect and disease-killed overstory trees, as approved by Resource Management Program Lead. Predominant vegetation types will include the mixed evergreen forest, montane forest, plantation, young montane logged forest, and montane open shrubland and chaparral vegetation types.
4. In most cases the majority of trees removed will be pole-sized below 8 to 10-inch diameter to increase canopy base-heights and reduce potential for crown fire, but up to 12-inch diameter trees may need to be thinned in dense stands of long-unburned or plantation areas to reduce crown density and increase canopy base heights. This work may occur in all previous

treatment areas in addition to those sites identified in the 2022-2025 work plan. Fuels may be piled and burned, chipped, lopped and scattered, or removed by mechanical means in areas that meet specifications for mechanical equipment use. Hand and machine piles will be burned during wet portions of the fall, winter, and spring months using an approved burn plan and smoke management plan. Additional sites within similar stand conditions and treatment specifications may be selected at a future date and will be routed through the compliance process in NPS Planning, Environment & Public Comment (PEPC) website to ensure there will be no differences in effects or impacts as analyzed in this FMP/EA.

Mechanical Treatments

Priorities for mechanical treatments include the following:

1. Mechanical Treatments will only be used on roadways and on those areas with slopes less than 30%, including the roadside treatments, shaded fuel breaks, and specific forest types. They will include the use of equipment such as tracked machines, feller bunchers, masticators, tracked chippers, and mini excavators. The current fuels treatment areas where mechanical equipment may be utilized to increase efficiency include portions of previous treatment areas (thinning treatments, 2005-2021), as well as projects planned for 2023-2026 within the Monument and Preserve. This will result in the treatment of approximately 649 acres total, which may be reduced based on project-level limitations and avoidance areas identified during the project layout phase. Within the Monument, mechanical treatment areas will focus on roadside (within 200 feet of road) and infrastructure protection, with hand treatments in other areas (e.g., hand retreatment of Horseshoe Shaded Fuel Breaks [SFBs], Cave Creek, and mid-slope units). No mechanical equipment will be used off road surfaces within the Historic District which includes the area immediately around the historic structures and the trail surface of the No Name, Cliff Nature, Lake Mountain and Big Tree trails. A 10-foot no-equipment buffer will be used on these trails along with Limestone Trail. Use or travel of equipment on all park trails will require rehabilitation.
2. Outside of current and previous planned treatment areas, there is an additional 765 acres less than 30% slope in the mixed evergreen forest, montane forest, plantation, montane chaparral, young montane logged forest, and montane open shrubland vegetation types that could potentially utilize mechanical equipment, and projects may be developed in these areas to reduce fuels and increase forest resiliency following similar specifications (See Figure A-6). These areas will need specific projects developed and will likely decrease total acreage based on specific site limitations, and will focus on areas of low suppression difficulty index and potential control locations. Conditions, objectives, and expected impacts will need to be similar to current planned projects; otherwise new project-level NEPA analysis will be required.
3. For roadside shaded fuel breaks, treatments may extend up to 200 feet from center line of the road bed on either side. If portions of the area are greater than 30% slope then hand crews will implement remainder of fuel break. Where fuel breaks occur in forested sites, a

minimum of 70% canopy cover will be retained to limit shrub and understory regeneration, and thinning will be focused on smaller size classes of trees and shrubs to reduce ladder fuels and potential for crown fire (thinning from below).

4. Within the fuels treatment areas where mechanized equipment will be utilized in addition to hand crews, the size class of trees removed will be limited to 12 inches or less, except in areas with jackpots of insect and disease killed trees where select dead trees up to 16 inches could be removed to reduce fire hazard and spotting potential, with approval from ORCA Resource Management Program Lead.
5. Treatments will be fuels-reduction focused and will not include areal logging removal with skylines or other logging layouts. Existing fuels treatments (shaded fuel breaks and forest resiliency projects) will be continued. Generally, thinning from below will be done to reduce ladder fuel connectivity, and piling and burning of biomass and surface fuels and/or chipping or a combination of these.

Site surveys for cultural and historic resources and federally listed species will occur prior to project implementation, in order to avoid potential adverse impacts. The selected alternative includes all actions described as the proposed action/preferred alternative in the FMP/EA. No commercial timber extraction is proposed in this alternative. The location of the treatment areas identified for treatment in the 2022 FMP update are shown in Figure 1. As a result of public comment, additional text was added to the FONSI Appendix A. This addition did not change the impact analysis in the FMP/EA.

This FMP/EA is a programmatic document and does not identify all the site-specific treatments under this FMP. For each treatment, the NPS will do one of the following: 1) document whether this EA provides adequate analysis in a subsequent memo to file (NPS NEPA Handbook, pgs. 23-24), 2) prepare a supplemental Categorical Exclusion, or 3) prepare an EA specific to the treatment if the site conditions are not consistent with the analysis in this EA.

Rationale

Based on the analysis presented in the FMP/EA, the National Park Service selected Alternative 3 (Manual and Mechanical treatments), the NPS-preferred alternative, because it best meets the project purpose and need, including:

- Updates the FMP to meet current NPS policy and standards.
- Extends FMP coverage to the preserve lands of the park.
- Improves management of wildland fire to better protect the public, park communities, and infrastructure.
- Improves conservation of natural and cultural resources.
- Improves management of emergency exits from the park.
- Enhances maintenance and restoration of natural ecosystems and processes.

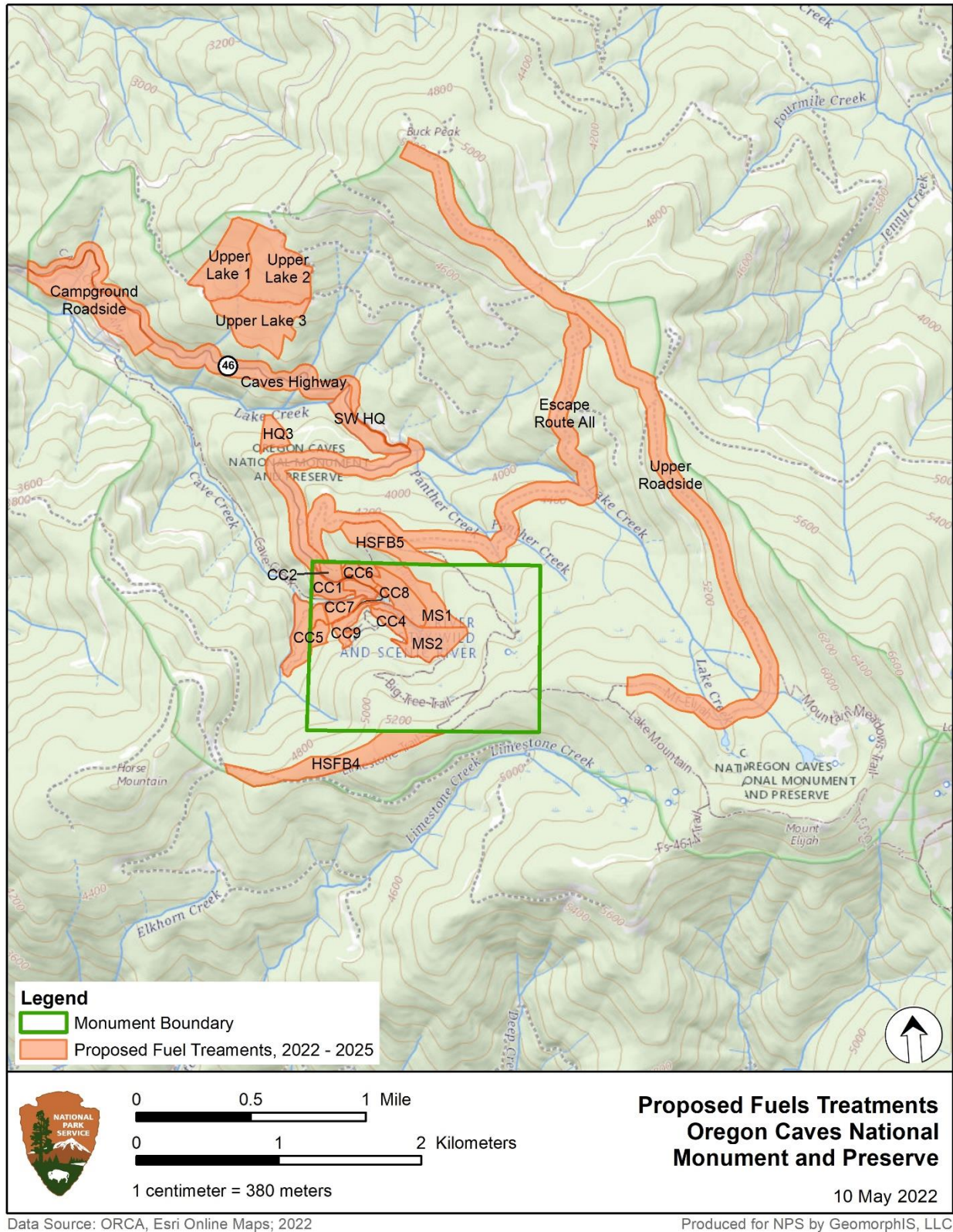


Figure 1. Alternative 3, Manual & Mechanical Treatment Areas for ORCA 2022 Fire Management Plan. (2022 ORCA FMP/EA, Appendix A, Figure A-8, pg. A-9)

3. Mitigation Measures

The selected alternative incorporates the mitigation measures listed after the analysis of each impact topic/resource in the Affected Environment and Impact Analysis sections of the FMP/EA (pgs. 6 to 43), as well as the associated Best Management Practices (BMPs) in FMP/EA Appendix B (pgs. B-1 to B-4). Modifications to the certain BMPs listed in the FMP/EA, as well as new BMPs, are included in Appendix A – Errata Indicating Text Changes to EA, of this FONSI.

The NPS has the authority to require implementation of mitigation measures under the Organic Act, The Wilderness Act, The National Historic Preservation Act, NPS Management Policies, 2006, as well as under park-specific plans, and other state and federal applicable requirements.

4. Other Alternatives Considered

Alternative 1: No Action Alternative

Under Alternative 1, the No Action Alternative, fire management will include ongoing wildland fire suppression within the park, as well as previous activities approved for the Monument only, including manual thinning, pile burning, and broadcast burning on approximately 277 acres of previous treatment areas (See ORCA Unpublished Draft FMP; NPS 2016). There will only be small hazard-tree reduction projects and no landscape-scale fuels management program implemented within the Preserve and therefore little reduction of wildland fire risk on Preserve lands. Wildfire suppression will include direct attack with hand tools and saws, mechanical equipment where allowed (dozers, masticators, feller bunchers engines, tenders pumps); and indirect attack with hand tools and saws and mechanical equipment, where allowed. Aerial suppression activities will include water and retardant drops by helicopter and air tankers. (FMP/EA pg. 5).

The risk of large fires and unwanted high-severity fire impacting ORCA will remain high, with no reduction in risk to mature forests and wildlife habitat, and no improvement to ingress/egress safety of staff or public within the park. No strategic fuelbreaks will be implemented to connect previous fuels projects in the Monument to defensible areas in the Preserve. (FMP/EA pg. 5).

Alternative 2: Manual Treatments (only)

Under Alternative 2, Manual Treatments, fire management and forest resiliency treatments will include wildland fire suppression, manual fuels reduction, pile burning and broadcast prescribe fire, without the use of heavy equipment off roads/developed areas as described in Alternative 3. The total approximate planned acres for Alternative 2 is 1,073 acres within previous treatment areas and current planned areas. (FMP/EA pg. 5).

ORCA will utilize hand thinning and prescribed fire (broadcast and pile burning) to alter fuel conditions around interface and developed areas, in strategic locations of potential control locations (including road edges, trail corridors, and ridge lines), to protect public and staff ingress and egress, to restore fire as an ecosystem process, and to increase forest resiliency considering changing climates and fire regimes. Projects may be re-treated to control re-sprouting vegetation and maintain previous treatments as needed, generally on a 3 to 10-year interval depending on abundance of understory shrubs and resprouting hardwoods, aspect, and elevation. (FMP/EA pg. 5). Manual treatments used for this alternative are described in Appendix A (FMP/EA pg. A-10).

5. Public Involvement/Agency Consultation

Public Involvement

The initial scoping period for the Proposed Action was from March 16, 2022 to April 15, 2022, and was announced via email, press release, and the NPS Planning, Environment & Public Comment (PEPC) website. A public (Zoom, online) meeting was held on April 5, 2022. Three members of the public participated in the online meeting. By the end of the comment period, five correspondents provided comments via the PEPC website, and one correspondent submitted their comments in a letter. All public comments were reviewed and substantive comments were considered by the NPS Interdisciplinary Team (IDT) in development of the Draft FMP/EA.

The public comment period for the FMP/EA was from December 16, 2022 to January 16, 2023, and was announced via email, press release, and the NPS PEPC website. A digital version (PDF file) of the Draft FMP/EA was posted on the PEPC website for review and comment. Comments were received from six correspondents: three individuals, two public interest groups, and one federal agency (US Environmental Protection Agency – EPA). There were more than 150 substantive comments from the interest groups and EPA, which were subsequently consolidated into 22 general comments for NPS response. See Appendix B of this FONSI for the NPS response to comments. There was no media interest in the project.

US Fish and Wildlife Service and National Marine Fisheries Service

The NPS consulted with the US Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) for compliance with section 7 of the Endangered Species Act to evaluate the potential impacts of the project on threatened or endangered species and their habitat. This consultation began April 4, 2022 and continued through February 2023 by phone, email, and virtual-meeting correspondence. The NPS determined that the preferred alternative “may affect but is not likely to adversely affect” the northern spotted owl, Pacific coastal marten, and Franklin’s bumble bee, as these species will likely experience insignificant effects due to BMPs being utilized in this FMP. The NPS also determined that the preferred alternative will have “no effect” on those species that do not occur within the planning area, including whitebark pine, Oregon spotted frog, and coho salmon.

On March 21, 2023, the USFWS sent a letter that documented its concurrence with the NPS determination that implementing the selected alternative “may affect but is not likely to adversely affect” the northern spotted owl, Pacific coastal marten, and Franklin’s bumble bee.

Oregon State Historic Preservation Office

On December 20, 2022, the NPS submitted the final draft FMP/EA to the Oregon State Historic Preservation Office (SHPO). In the accompanying letter, the park stated that it does not anticipate any effects to cultural landscapes, archeological resources, or historic structures from the general

actions outlined in the comprehensive plan. As the NPS moves forward towards carrying out any projects stemming from the fire management plan, more detailed proposals will be developed and subjected to section 106 review in accordance with the NPS Nationwide Programmatic Agreement (2008) or as outlined in the implementing regulations (36 CFR 800.1(c)).

On January 26, 2023, the Oregon SHPO sent a letter that documented its concurrence with the NPS determination implementing the selected alternative of the Fire Management Plan will not cause adverse effects.

American Indian Tribes

On December 20, 2022, The NPS submitted the final draft FMP/EA by mail with a letter that stated the park does not anticipate any effects to cultural landscapes, or archeological resources from the general actions outlined in the comprehensive plan. The federally recognized tribes consulted with include: The Confederated Tribes of Siletz Indians, Cow Creek Band of Umpqua Tribe of Indians, Tolowa Dee-ni' Nation, Karuk Tribe, The Confederated Tribes of the Grand Ronde Community of Oregon, and Quartz Valley Indian Community of the Quartz Valley Reservation of California. No response or request for further consultation was received from any federally recognized tribe.

6. Finding of No Significant Impact

As described in the FMP/EA, the selected alternative has the potential for adverse impacts on air quality, non-native or exotic species, species of special concern or their habitat, native vegetation, wildlife and wildlife habitat, cultural resources (archeology), historic structures and landscapes, museum collections, geologic features and soils, and water-related resources; however, no potential for significant adverse impacts were identified. Mitigation measures for each impact topic/resource are provided in the Impact Analysis section of the FMP/EA (pgs. 6 to 43). These are further supported by related BMPs in the FMP/EA Appendix B, and in Appendix A of this FONSI. Application of the mitigation measures and BMPs will reduce the potential adverse impact of the selected alternative treatments on park resources to less than significant.

Air Quality – Prescribed broadcast and pile burning will cause temporary reductions in local air quality but will not pose a substantial health risk to the visiting public or park staff living at the park. Prescribed burning will be undertaken considering atmospheric stability and associated smoke dispersion characteristics. All emissions from prescribed burns will occur during spring, fall, or winter when visitation to ORCA is generally very low. All proposed burn projects will be in conformance with the Clean Air Act, the Oregon State Smoke Management Plan and the Oregon Visibility Protection Plan. The use of gasoline/diesel powered equipment for mechanical treatment will cause local, short-term increases in hydrocarbon emissions that will be minimized with standard vehicle emission controls. The transitory nature of smoke from prescribed fire and pile burning, and emissions from equipment, will have only a short-term, adverse effect on local or regional air quality. In contrast, smoke from uncontrolled large-scale, long-duration wildfires originating within the park boundaries could adversely affect air quality in sizeable portions of the park and nearby communities

for extended periods. The potential for large, high-intensity, long-duration wildland fires will decrease with implementation of the selected alternative. (FMP/EA pgs. 27-28 and 35-36).

Non-native or Exotic Species – There is a potential for mechanized equipment to transfer non-native plant and *Phytophthora* propagules from an infested area of ORCA to a previously un-infested area during the treatment process. As part of all fire and fuels management activities, ORCA staff will follow strict equipment cleaning and inspection protocols prior to moving equipment to a new site. No long-term adverse effects are anticipated with implementation of the selected alternative. Instead, proper use of prescribed fire, post-burn monitoring, and control of invasive species on the treated sites will result in an overall, long-term improvement of desired-species health and resilience to invasion by non-native and exotic species. (FMP/EA pgs. 28 and 36).

Species of Special Concern or Their Habitat – Implementation of the selected alternative may have short-term, adverse effects on species of special concern and their habitats within ORCA. Prescribed burning, vegetation removal, and use of heavy equipment cause a temporary reduction of canopy cover and forage, and a temporary increase in noise that may disturb wildlife in the treatment area. As the vegetation canopy recovers after a low-intensity burn (typically the following year), habitat function and structure will return and be more resilient to wildfire. If used near streams, heavy equipment can damage stream banks, increase sediment to the water body, and lower the water quality for aquatic species. However, the use of mechanized equipment to facilitate and expedite fuels reduction and to support prescribed fire activities will be restricted to areas of <30 percent slope, and away from aquatic resources. (FMP/EA pgs. 29-30 and 36-38).

Under the selected alternative, all wildlife species of special concern will be avoided during prescribed fire operations, spatially and/or temporally. All plant species of special concern will be avoided during prescribed fire operations, unless it is determined that burning enhances a particular species. Before treatment, each individual project within the park will complete a clearance survey, be approved by the park's Resource Management Program Lead, and include consultation with the USFWS under Section 7 of the Endangered Species Act (ESA). With application of the selected alternative mitigation measures and BMPs, there will be no significant adverse impact to northern spotted owl, Franklin's bumble bee, Pacific coastal marten, Oregon spotted frog, or Oregon coast coho salmon. The selected alternative will have a long-term beneficial effect by enhancing, increasing, and maintaining habitats for species of concern. (FMP/EA pgs. 29-30 and 36-38).

Native Vegetation – Under the selected alternative, any adverse effects of plant canopy removal (by prescribed fire, manual or mechanical means) will be short term and recovery will be quick. Broadcast burning within the park will be conducted primarily during the season when most natural fire occurred (April through October). This will be in alignment with native species phenology and life histories; i.e., it will be the type of fire they most likely have adapted to and under appropriate soil conditions (to prevent heat damage to soils). Increased low-severity prescribed burns within the park will reduce potential for large, high-severity wildland fires. Prescribed fire will also increase herbaceous density, reducing overland flow associated with intense precipitation events. Potential damage caused by use of heavy equipment will be avoided by application of mitigation measures and BMPs. Implementation of the selected alternative and follow-up maintenance will have long-term,

beneficial effects on the health and productivity of native vegetation within the park. (FMP/EA pgs. 30-31 and 38).

Wildlife and Wildlife Habitat – As with Species of Special Concern (see section, above), the use of prescribed fire, manual, and mechanized plant removal will cause local wildlife to temporarily disperse to unaffected areas, and cause stress to species that are unable to avoid the activity. However, the direct adverse impact to wildlife will be short-term, as will the potential indirect adverse impact to their habitat caused by ground cover disturbance. To protect migratory and other bird species, vegetation trimming and removal will be scheduled outside of peak breeding season (May 1 to June 15) to the maximum extent practicable. All areas will be spot surveyed immediately prior to vegetation removal and all bird nests will be avoided. The implementation of the selected alternative, which includes follow-on maintenance of treated areas, will have the cumulative beneficial effect of restoring and enhancing pre-settlement ecosystems to the benefit of plant and wildlife species. (FMP/EA pgs. 31-32 and 38).

Cultural Resources (Archeology) – Low-intensity prescribed burning has little adverse effect on stone artifacts while high-intensity wildfires can be very damaging to these resources. Vegetation removal and use of low-intensity prescribed fire, per the selected alternative, will reduce fuels around cultural sites and protect them from wildfire damage. Potential damage to cultural sites by mechanized equipment will be prevented by conducting pre-treatment surveys to identify and avoidance-flag cultural sites and artifacts. SHPO will be consulted prior to treatment of sites containing cultural resources. By facilitating the removal of hazardous fuels adjacent to sensitive cultural sites, the selected alternative will have the long-term beneficial effect of reducing the risk of catastrophic wildfires that could destroy the sites. (FMP/EA pgs. 32 and 38-39).

Historic Structures and Landscapes – Smoke from prescribed fire and pile burning near to the Historic District is unlikely to damage historic building materials or furnishings. Stone benches along trails and all structures outside the Historic District will be protected from prescribed burns. No mechanical equipment will be used off of road surfaces within the Historic District which includes the area immediately around the historic structures and the trail surface. A 10-foot no-equipment buffer will be used on these trails. Park trails damage heavy equipment on park trails will require rehabilitation, as needed. Prior to prescribed fire operations, surveys will be conducted and concurrence with the SHPO will be obtained. All known historic structures will be avoided, and any structures discovered during operations will be protected. Combined with other NPS actions to make historic structures more fire resistant, the selected alternative will have the cumulative beneficial effect of greatly reducing the likelihood of the buildings being destroyed by wildfire. (FMP/EA pgs. 32-33 and 39).

Museum Collections - Only manual fuel reduction treatments of the selective alternative will be conducted near to buildings containing museum collections. No adverse effects of prescribed burning and fuels reduction actions are expected under the planned conditions. Smoke from prescribed fire and pile burning, or emissions from mechanical equipment, are unlikely to damage the buildings or the collections. Combined with other NPS actions to make ORCA structures more fire resistant, the selected alternative will have the cumulative beneficial effect of reducing the likelihood of the

buildings, and the museum collections they contain, being destroyed by wildfire. (FMP/EA pgs. 33 and 39-40).

Geologic Features and Soils - Changes in watershed condition caused by wildfire or prescribed fire, can alter the chemistry of water that flows into the ORCA cave system. Soil disturbance and erosion caused by heavy equipment can reduce infiltration into the epikarstic soils overlaying caves. Potential damage to caves hydrogeology and epikarstic soils will be prevented by application of mitigation measures and BMPs. Particular attention will be given to minimizing erosion on the most erodible soils on ORCA. Fire lines will be located to take advantage of natural barriers, rock outcroppings and trails. Because mechanized equipment can cause ground disturbance in some situations, the areas where it will be used are limited by slope (<30% slopes) and adjacency to sensitive areas like streams and wetlands, and soils overlaying cave systems. Implementation of the selected alternative, combined with long-term site maintenance and restoration actions, will have a cumulative beneficial effect on stream flow and water chemistry, with the prospective of maintaining geologic processes and feature within the caves at their optimal balance. Fuels treatments will reduce the risk of catastrophic, high-intensity wildfires on ORCA, events which could cause massive shifts in stream and cave chemistry as well as destructive levels of soil erosion and sedimentation across large areas. (FMP/EA pgs. 33-34 and 40).

Water-Related Resources – The selected alternative will avoid short-term or long-term adverse effects on treated watersheds, and Wild and Scenic Rivers. Potential erosion and sediment delivery to streams will be mitigated by ensuring that only appropriate-sized portions of a watershed or watersheds are burned in any given year. A mosaic of vegetation will be left immediately adjacent to streams. Revegetation of burned areas will be evaluated prior to burning additional portions of the watershed. Care will be taken not to damage water supply infrastructure during reduction of fire fuels. Use of mechanized equipment has the added risk of releasing hazardous materials to the soil and streams by leaks or spillage of lubricants, hydraulic-fluids, and fuels. This will be prevented or minimized by applying standard BMPs to use of mechanized equipment. Likewise, the adverse effects of soil erosion and stream sedimentation, caused by mechanized equipment, will be minimized by restriction of equipment to slopes <30%, conservative buffer zones around all riparian and wetland resources, and application of other BMPs. Implementation of the selected alternative will greatly reduce potential for large, high-severity wildland fires. The long-term cumulative effect of these actions will be to improve watershed conditions within ORCA, and restore downstream flows and aquatic habitats to a more functional condition. (FMP/EA pgs. 34-35 and 40-41).

Furthermore, there will be no significant impacts on public health, public safety, or unique characteristics of the region. No highly uncertain or controversial impacts, unique or unknown risks, significant cumulative effects, or elements of precedence were identified. Implementation of the Selected Alternative will not violate any federal, state, or local environmental protection law.

7. Conclusion

As described above, the selected alternative does not constitute an action meeting the criteria that normally requires preparation of an environmental impact statement (EIS). The selected alternative will not have a significant effect on the human environment in accordance with Section 102(2)(c) of NEPA.

Based on the foregoing, it has been determined that an EIS is not required for this project and, thus, will not be prepared.

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Appendix A: Errata Indicating Text Changes to EA

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Errata Indicating Text Changes to EA

This appendix provides the National Park Service's (NPS) changes to the Oregon Caves National Monument and Preserve (ORCA, Monument and Preserve, or park), updated Fire Management Plan (FMP), Environmental Assessment (EA).

The errata contains corrections and minor revisions to the FMP/EA. Page numbers referenced pertain to the pages in the original FMP/EA. The edits and corrections in this errata do not result in any substantial modification being incorporated in the selected action, and it has been determined that the revisions do not require additional environmental analysis. This errata, when combined with the FMP/EA, comprises the only amendments deemed necessary for the purposes of completing compliance and documentation for the project.

Original text from the FMP/EA is included to provide context and to allow for comparison to the text change. Additions to the text are underlined; deleted text is shown in ~~strikeout~~.

FMP/EA Page 11. The percentage of disjunctive (isolated populations), regionally endemic, and range-limited species is also high and is related to the Siskiyou Mountain's east-west orientation and geographical linkages, great age and moderate elevation, precipitation, productivity, and disturbance regimes. Varied topography, geology, and microclimates contributed to this diversity. The Monument's largest meadow supports perhaps the largest distinct concentration of American saw-wort (*Saussurea americana*) and a saw-wort-willow plant association is listed as rare by Oregon's Natural Heritage Program (NPS 2016). Another rare, park priority plant species is California globe mallow (*Iliamna latibracteata*) which thrives in disturbed areas including burned areas.

FMP/EA Appendix A, Page A-11. A 10-foot no-equipment buffer would be used on these trails along with Limestone Trail. Use or travel of equipment on all park trails would require rehabilitation. No trail widening would be allowed during this treatment.

FMP/EA Appendix A, Page A-1. Fire suppression would be used to protect infrastructure, high visitor-use areas, and natural and cultural resources. The NPS would apply Minimum Impact Suppression Tactics (MIST) summarized in FMP/EA Appendix B – Best Management Practices (BMPs) and in the FMP document. Management of wildland fires would include resource benefit objectives and return of fire to its natural role on the landscape where identified risk is manageable and acceptable. Proposed fire management would include a combination of manual and mechanical treatments.

FMP/EA Appendix B, Pages B-1 to B-2.

~~SSCH 01 — Surveys for spotted owls, following established regulatory protocols, have or would be conducted in all areas containing suitable habitat within 1 mile of proposed work areas to prevent disruption or disturbance.~~

SSCH 01 — Surveys for spotted owls, following established regulatory protocols, have been, or would be conducted, and would be repeated according to FWS ARU protocol

(repeated after 3 years with required spot checks) in all areas containing suitable habitat within 1.3 miles of proposed work areas to prevent disruption or disturbance.

SSCH 02 ~~Where spotted owls are detected, thinning work would be excluded for 0.25 miles and burning operations would be excluded for 1 mile unless further consultation is conducted with US Fish and Wildlife Service (USFWS). Any work that generates noise above ambient sound levels would not occur within 0.25 miles of a northern spotted owl detection site during the spotted owl noise restriction period (March 1 to September 30). If a spotted owl activity center is found to have chicks, then no tree removal would occur during the period March 1–September 30 within the activity center stand, within 0.50 miles of an activity center or according to further consultation with USFWS.~~

SSCH 02 Where spotted owls are detected, all types of thinning work would be excluded for 0.25 miles and burning operations would be excluded for 1 mile unless further consultation is conducted with US Fish and Wildlife Service (USFWS). Any work that generates noise above ambient sound levels would not occur within 0.25 miles of a spotted owl detection during the spotted owl noise restriction period (March 1 to September 30). If any site is determined to be occupied, or have prior-year chicks, there would be no treatment of NRF within the 300-meter core nest patch or the 0.5 mile core area at any time of year, unless further consultation with USFWS is conducted. All treatments outside the core but within the 1.3 mile Home Range would only be completed after further conference with USFWS. Unsurveyed areas would be treated as occupied.

SSCH 05 ~~Gaps (openings) created in any treatments would maintain creation would be minimized to maintain a 70% average canopy cover where present, and treatments would not increase an existing opening to more than 0.25 acre in size, including landings. Individual thinning and burning projects within spotted owl nesting, roosting and foraging habitat would be separated spatially and temporarily temporarily to provide adjacency of high-quality habitat for prey species.~~

SSCH 07 Prescribed fire (piles and broadcast) treatments would require an appropriate complexity burn plan and be conducted during the fall, winter, and spring months depending on rainfall, air quality, fuel moisture, Threatened and Endangered (T&E) species restrictions, and burn window availability. Broadcast burning preparation would include pulling back litter around large dead wood features to protect them. Road edges, wetlines, and natural fuel breaks would primarily be used as firelines. All firelines that are built would minimize tree removal and would be recovered with topsoil. A smoke management plan may be required dependent on size and number of piles, and would be coordinated and approved by local air quality management district.

SSCH 08 To protect Endangered Franklin’s bumble bee during peak flight period, burning (piles or prescribed) would-not be allowed occur in the High Potential Zone (HPZ);

or any meadows or within 328 feet of meadows or open areas with substantial floral resources within the action area from May 15 to September 30. To preserve Franklin's bumble bee nesting habitat, mechanical ~~Mechanical~~ equipment would not be used within ~~328~~ 300 feet of meadow areas at any time of the year, to preserve Franklin's bumble bee habitat and any identified nest would be avoided completely by 200 feet unless there is further consultation with USFWS.

SSCH 11 To confirm assumption of absence of coastal marten, camera studies would be repeated in the action area at 4 year interval-maximums. If a marten is detected within the action area, consultation with USFWS would be reinitiated.

FMP/EA Appendix B, Pages B-3 to B-4.

GEOS 03 No mechanical equipment use or fuel storage would occur within 200 feet of mapped cave features, mapped areas of marble, or points of infiltration and discharge (epikarst conduits, sinking streams, sinkholes, and springs). Spill prevention plans and spill clean-up kits would be required for each project deployment.

FMP/EA Appendix B, Page B-4.

Fire Suppression

MIST 01 Minimum Impact Suppression Tactics (MIST), the use the minimum amount of force to effectively achieve fire management protection objectives consistent with land and resource management objectives, would be applied to suppression of both wildfires and prescribed fires. Details of MIST concepts and application would be incorporated in the updated FMP.

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Appendix B:
Response to Substantive Public Comments

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Response to Substantive Public Comments

This appendix provides the National Park Service's (NPS) response to public comments on the Oregon Caves National Monument and Preserve (ORCA, Monument and Preserve, or park), updated Fire Management Plan (FMP), Environmental Assessment (EA).

Many of the written responses to the FMP/EA expressed an opinion or preference; some were substantive. According to the NPS NEPA Handbook, pg. 65 (NPS 2015), substantive comments are those that:

- Question, with reasonable basis, the accuracy of information in the environmental analysis.
- Question, with reasonable basis, the adequacy of the environmental analysis.
- Present reasonable alternatives other than those presented in the environmental analysis.
- Cause changes or revisions in the proposal.

In other words, substantive comments raise, debate, or question a point of fact or analysis. Per the NPS NEPA Handbook, pg. 65, “comments that merely support or oppose a proposal or that merely agree or disagree with NPS policy are not considered substantive and do not require a formal response.”

During the 30-day public comment period, the park received 6 correspondences, generating 150 substantive comments. Three of the correspondents were private individuals (supportive of the proposed action), two were public interest groups (Klamath Forest Alliance – KFA, and Klamath Siskiyou Wildlands Center - KSWC), and one was from a federal regulatory agency (US Environmental Protection Agency - EPA). In addition, the US Fish and Wildlife Service (USFWS) commented on the Biological Assessment associated with the Alternative 3 (Manual and Mechanical) treatments, which resulting in corresponding changes to the FMP/EA.

The NPS NEPA Handbook, pg. 65 instructs that: “When preparing written responses, you do not necessarily need to respond to every individual substantive comment received; it is acceptable to summarize similar comments and create a single response.” Many substantive comments to the FMP/EA addressed related issues or were subsets of correspondent-enumerated comments. Consequently, the NPS has provided responses that cover multiple related comments (22 comment responses). Public comments resulted in minor changes to the FMP/EA as noted below and in Appendix A of this finding of no significant impact (FONSI).

The following are NPS responses to substantive comments received during the public comment period.

Comments from Klamath Forest Alliance (KFA)

General Response to Several KFA Comments:

(Note: Because KFA posed similar concerns across approximately 150 comments, the key concerns are addressed here; detailed responses to specific comment areas are addressed below.)

Many comments submitted by KFA were based on the mistaken assumptions that the treatment actions considered in the FMP/EA included “commercial” harvest of trees, and that the FMP/EA was meant to assess potential impacts of project-specific treatments and treatment areas. Commercial harvest was never a part of the FMP/EA and is not proposed as an option. The FMP/EA is by necessity a “programmatic EA”, as project-specific analysis can only be conducted after project sites are prioritized and funding becomes available over the multi-year duration of the FMP.

Some KFA comments criticized the scientific sources that the NPS employed in their effects analysis, while providing alternative or additional sources of information. NPS scientists and planners are well aware of the broad range of current, scientific information and opinion regarding fire management and planning both locally and regionally. In their analysis, NPS cited objective scientific sources most-relevant to the park’s management needs and stewardship responsibilities. KFA comments that suggested the proposed mechanical treatments would cause significant adverse effects to resources did not appear to consider the mitigation measures and Best Management Practices (BMPs) provided in the FMP/EA, which were specifically designed to protect those resources.

KFA provided a detailed description of their alternative proposal (a modification of the Alternative 2 Manual Treatments). This was reviewed and considered by NPS but was found to not adequately meet the purpose and need of the FMP update in light of current and predicted future trends in wildfire occurrence and severity. Consequently, the proposed modified alternative was not further analyzed and the NPS retained Alternative 3 as the preferred alternative for the FMP treatments.

Response to Specific Comment Areas:

The following are the key comment areas posed by KFA and responded to by NPS.

We are also concerned by the programmatic NEPA approach and the rather minimalistic NEPA analysis. We believe a much more site-specific approach is necessary, especially when proposing commercial treatments, mechanical treatments, heavy equipment use and the extraction of biomass. In fact, the Environmental Assessment does not adequately consider numerous substantive or relevant issues with potentially harmful environmental effects.

Response: Commercial treatments and selling of logs are not proposed in this FMP/EA. Thinning of trees up to 12-inches DBH is proposed to reduce wildfire intensity and severity.

Specific details are provided in Appendix A and provide potential project areas where mechanical equipment may be utilized. This FMP/EA is a programmatic document and does not identify all project-specific treatments under this FMP. However, BMPs are provided (FMP/EA Appendix B) that address avoidance measures for mechanical equipment to avoid negative impacts to sensitive resources and values. Furthermore, as specific projects are developed and project funding acquired, the NPS would 1) document whether this EA provides adequate analysis in a subsequent memo to file (NPS NEPA Handbook, pgs. 23-24), 2) prepare a supplemental Categorical Exclusion, or 3) prepare an EA specific to the treatment if the site conditions are not consistent with the analysis in this EA. Polygons provided for potential mechanical treatment will likely be reduced in acreage due to site-specific constraints related to access or BMP restrictions; in these cases hand treatments would be utilized. Relevant issues selected for detailed analysis are listed on pages 3 and 4 of the FMP/EA.

Projects are typically developed annually as part of a 3 to 5-year fuels program of work. Budget limitations and limited staffing capacity at ORCA do not allow for complete planning and surveying of full park boundary for all fuels projects at this time; general project areas are provided and future projects will undergo planning and compliance as funding is allocated to ORCA annually for fuels management activities.

The Oregon Caves Fire Management Plan EA lacks specificity and does not adequately analyze the relevant issues.

Response: This is a programmatic EA that provides maps of previous and current planned fuels treatments, including a separate map of potential mechanical areas within the planned treatment areas (See FMP/EA Appendix A, Figure A-7, 649 acres) and potential future areas (Figure A-6, 765 acres). Fuels reduction prescriptions are general due to the focus on small tree size classes and thinning from below; these are not forest restoration activities but generally accepted and widely implemented fuels reduction tactics focused on lowering potential fire intensity and severity and allowing firefighter access to key defensible areas, and increasing tree survival if a wildfire were to occur. Specific site prescriptions for projects will be developed following specs and BMPs in this FMP/EA. For all site prescriptions not detailed at the site-specific level in the EA, the NPS will review the EA to determine whether any further NEPA compliance is necessary. Impact analysis for each impact topic and each alternative is provided in Affected Environments and Impact Analysis sections of FMP/EA.

The Oregon Caves Fire Management Plan does not provide site specific project details or prescription perimeters.

Response: Since treatments are fuels reduction focused on thinning small diameter trees, the NPS Interdisciplinary Team (IDT) provided adequate detail in the treatment descriptions for a programmatic EA. Additional site specific details will be developed at the individual project planning phase as outlined in previous response above. ORCA has a long history of thinning from below and pile burning (see FMP/EA Appendix A, Figure A-1) to maintain mature conifers and hardwoods and the diversity of tree species present; these treatments can be observed at

ORCA and have always been supported by stakeholders. For all site prescriptions not detailed at the site-specific level in the EA, the NPS will review the EA to determine whether any further NEPA compliance is necessary.

Commercial treatments proposed in the Oregon Caves Fire Management Plan do not adequately consider the four major issues the FMP is intended to address.

Response: Commercial treatments are not proposed in this FMP/EA. However the proposed fuels treatments do address park and community protection, conservation of resources, managing emergency exits, and maintaining and restoring ecosystems. To strengthen our discussion, we added MIST tactics and Sensitive Resource Avoidance from current (2016) FMP to the FMP/EA BMPs Appendix B (Errata). Numerous components of a NPS Fire Management Plan are operational in nature and included in the Fire Management Plan, but not the Environmental Assessment,. Although not all wildland fire suppression issues are addressed in detail in the FMP/EA, they are addressed in the FMP. FMPs follow NPS RM-18 (<https://mylearning.nps.gov/library-resources/reference-manual-18-wildland-fire-management/>) and include preparedness elements, staffing and initial response plans, MIST per NPS policy, standard operating procedures, fire danger operating plans, etc. which are not analyzed via NEPA process. ORCA is not proposing managing wildfire for resource benefit objectives with this FMP. However, NPS is implementing a full fire suppression strategy for emergency wildfire incidents in alignment with Interagency Standards for Fire and Fire Aviation Operations and NPS policy.

Commercial tree removal and mechanized equipment use of existing roads is not required to meet project goals and will hinder achievement of scenic, recreational and biological objectives.

Response: Commercial removal is not included in this plan. The FMP/EA proposes thinning of live trees up to 12-inch DBH, but "mostly below 10 to 12-inch DBH" to meet fuels reduction objectives, i.e., reducing ladder fuels, lowering canopy density, and increasing canopy base heights, all of which reduce crown fire potential, based on fire behavior expert opinion as well as scientific literature. Project-specific prescriptions will only include up to 12 inches when needed to reduce canopy densities; many previously treated stands only required 6 to 8-inch DBH thinning to meet project goals. Mechanized equipment is proposed precisely to increase efficiency/pace of thinning, piling, and fuels treatments. BMPs are in place to avoid soil impacts to sensitive soils on steep slopes and impacts to sensitive resources, and will only be utilized where BMPs can be implemented.

The proposed 10 [foot] buffers for mechanical treatments along Oregon Caves National Monument and Preserve trails are not adequate to protect the recreational, aesthetic, or historical nature of area trails.

Response: BMPs are provided to preserve the trails and associated values. As stated in the FMP/EA, equipment will not be used within 10 feet of any historic trail listed in the National Register, as well as, Limestone Trail. This provides adequate protection for the cultural landscape

associated with the trail, and the recreational and aesthetic nature of the trails. Work done more than 10 feet away from historic trails may create more open areas temporarily which would increase and protect historic compatibility. The FMP/EA mitigation requirement to rehabilitate all trails used for equipment travel will repair any trail damage and an explicit requirement of 'no trail widening allowed' has been added in the errata.

Alternative 3 provides no additional benefits over alternative 2, but raises the potential for significant environmental impacts.

Response: Alternative 3 provides for use of mechanical equipment to increase efficiency of thinning and piling fuels reduction activities while avoiding sensitive resource impacts outlined in BMPs. Many types of small tracked equipment exist that can pile, chip, masticate, and fell <12-inch DBH trees that could be utilized for fuels treatment projects to increase efficiency. Commercial removal is not included in this plan.

EA analysis of Trends and Cumulative Impacts is inaccurate, invalid and inadequate.

Response: The FMP/EA was initiated under the previous administration Council on Environmental Quality (CEQ) regulations (CFR 85 FR 43357, July 16, 2020, which repealed § 1508.1: "(g). Cumulative impact, defined in 40 CFR 1508.7 (1978), is repealed" and removed references to "direct" and "indirect" effects and only indicated "effects". These changes were not reversed until new rules were finalized in Federal Register /Vol. 87, No. 76 /Wednesday, April 20, 2022 /Rules and Regulations. Following the 2020 CEQ regulations, NPS NEPA guidance emphasized resource "trends" rather than cumulative impacts.

The potential effect of each alternative on resource trends is described in Chapter 6 Impact Assessment for each resource under the subheading "Trends and Cumulative Effects." *The following statement is false and misleading and should not be utilized to justify commercial or mechanical treatments; "Anthropogenic climate change has increased the area burned by wildfire above natural levels for the Western US as a whole, including Southwestern Oregon. The increased heat of climate change has combined with fuel accumulation from unnatural fire suppression to increase surface area burned."*

Response: Studies are referenced to back this up this statement in the FMP/EA. Brown et al. (2021), Halofsky et al. (2020), speak to not just current but likely future conditions that will favor increased fire activity. These studies show trends increasing, rather than just comparing current conditions to past. Halofsky et al. (2020) further state: "Resource managers will likely be unable to affect the total area burned by fire, as this trend is driven strongly by climate. However, fuel treatments, when implemented in a spatially strategic manner, can help to decrease fire intensity and severity and improve forest resilience to fire, insects, and drought." KFA, like NPS, cites Agee (1991), but this study does not address current and future climate and wildfire trends but only looks at the past.

NPS is in agreement that a majority of fire science and ecology research on area burned and patterns in burn severity are correlated with climate and previous fire suppression. However,

KFA fails to acknowledge the changes to fuel loads caused by previous fire suppression, or the future predictions of increased area burned AND increased burn severity with climate change in the peer reviewed literature. NPS acknowledges the very real current and future threat of wildfire impacting ORCA and is attempting to increase likelihood of either stopping or slowing a fire burning into the park, or reducing the severity if it does. Fuels consist of live and dead vegetation and therefore are linked to "forest management".

The EA claims that reducing the footprint of fire/fuel reduction activities “could ultimately lead to large, high-intensity wildland fires” (USDI 2022. P. 27) This statement is inconsistent with fire history in the Siskiyou Mountains.

Response: The NPS statement referenced on pg. 27 of the FMP/EA remains valid. Under Alternative 1, no fuels treatments will be utilized in the Preserve, which would directly increase risk of a fire moving from Forest Service (FS) lands through the park, or from the park onto adjacent FS lands, as no fuels treatments could be strategically utilized on the park to halt such a fire. Initial attack resources are less likely to be successful with fewer safe areas to engage and heavier fuel loading lacking treatments.

NPS does not argue that fuel loading is the only factor influencing occurrence of wildfires. We understand multiple factors influence fire occurrence and intensity/severity. However fuel loading does contribute to fire intensity, severity, and spread. Fuels treatments on roads and ridges at ORCA may allow firefighter access for strategic operations that could halt a fire moving into orca or one that started on NPS and is spread off the park. Heavy inversions and moderate fire weather will not ALWAYS be in place during fire events (see the Slater fire). Fuels treatments that include mechanical/hand thinning followed by pile or broadcast burning in forested stands away from ridges and road may increase mature tree survival if a wildfire does occur.

Numerous studies in both the Klamath area as well as northern Sierra Nevada and southern Cascades have found that re-burn severity is often strongly influenced by previous burn severity. Taylor et al. (2021; see <https://esajournals.onlinelibrary.wiley.com/doi/full/10.1002/ecs2.3734>) highlight fires in the Klamath-Siskiyou and focus on areas that burn at high-severity are likely to burn at high-severity again, based on data from multiple wildland fire incidents. Similarly, areas that burn at low and moderate severity will likely continue the pattern in future wildfires. In the 2020 Slater Fire referenced by KFA, 82,207 acres burned at high severity, killing most of the above ground forest biomass. Based on best available science, this massive high-severity footprint is likely to burn at high-severity at some point in the future again, and will not be a benefit to ORCA as stated by KFA or the surrounding communities that suffered devastating losses during the Slater Fire. If ORCA can reduce fuels and apply pile and broadcast burning, future wildfires will be more likely to burn at low severity with lesser negative impacts to the values at risk.

The point that recent fire footprints slow or stop other wildfires is well understood by NPS. Fundamentally, this is due to a reduction in available live and dead fuels, which is why fuels are

important. Recent fires also allow firefighter access to previous control lines, except in high-severity areas where snags are too hazardous. The proposed fuels program at ORCA utilizes a combination of thinning, pile, and broadcast burning, with the goal of reducing available live and dead fuels that support high-intensity, rapid fire spread. These treatments can slow wildfires, lower fire severity, and allow firefighter access for operations, except under the most extreme fire weather events. Thinning small diameter trees mechanically or by hand is often necessary as prescribed fire alone will kill many of these small trees during first-entry burns, and in dense stands this requires follow-up pile burning to clean up the dead and down. This is why the combination of thinning and prescribed fire is often the most effective fuels treatment (this concept is backed up by the national fire and fire surrogates study: see Schwilk et al. (2009): https://esajournals.onlinelibrary.wiley.com/doi/full/10.1890/07-1747.1?casa_token=fg9RugzL0IkAAAAA%3Ai_xYUyK4re-m1kDx9tdMiQPC_ijUBhlDmk5QXkmheRFdv2dp0e2v7-bRp-Rb1VZnOU22YpDCff0Rpw).

The KFA is essentially arguing that fuel loading has little to no influence on fire behavior and effects which is unfounded in the scientific literature (and contradictory with some of the references provided by KFA), and they also fail to acknowledge current and predicted changes in fire regimes with future climate change, instead implying that the NPS should rely on inversions, north aspects, and unique conditions in the Siskiyou region to moderate wildfires at ORCA. NPS understands multiple factors influence fire behavior that are out of human control, however fuel loading is a contributing factor to fire behavior and is one of the few factors that can be manipulated to lower wildfire severity and increase firefighter access for fire suppression operations that may save the monument and associated structures from a wildfire. If future wildfires do occur under moderate fire weather conditions, planned fuels treatments will be even more effective in holding fire from burning through the park. In addition, fuels reduction directly benefits visitor ingress/egress and reduced fire severity (more tree survival) if it in fact does burn in wildfire.

Yet, counter balancing that effect in the Klamath-Siskiyou Mountains are persistent smoke inversions that dramatically reduce fire spread and severity. Once the wind dies, the humidity rises, and the air stagnates creating a persistent inversion layer, the smoke can accumulate blocking the sun, further trapping humidity, reducing temperature below the smoke layer, and reducing fire behavior accordingly. This smoke pooling can moderate fire behavior despite active fire weather occurring above the inversion layer and in spite of heavy fuel loading. In the Klamath-Siskiyou Mountains, local weather and terrain generally dictate fire activity, not fuel loading, structural conditions or species composition. (Estes. 2017)

Response: Studies such as Estes 2017 do not imply that fuels are unimportant, but the relative influence of fuels depends on a number of factors. This study does acknowledge that vegetation (i.e., fuels) and time since last fire influenced burn severity. Furthermore, mid and upper slope locations (similar to ORCA) burned at higher severity as well. Upper slope positions are more likely to extend above smoke inversions. These studies do not suggest fuels treatments should not be utilized, but rather they should consider the relative influence

of fuels, topography, and weather in priorities and prescriptions. "Vegetation type and fire history were also important predictors of fire severity. Shrub vegetation was more likely to burn at higher severity than mixed hardwood/conifer or hardwood vegetation. " Estes et al. 2017.

The NPS should focus on the maintenance of biological values rather than "cost effective and rapid fuel reduction" (USDI 2022. P. 35).

Response: NPS is focused on maintenance of biological and cultural resource values by implementing fuels treatments in strategic areas to reduce potential fire spread rate, intensity, and severity and allow firefighter access. Increased pace and scale of fuels management treatments in light of climate change, drought stress, and increased fire activity is a priority. The protection of communities and assets, and conservation of natural resources, are goals of the NPS Wildland Fire Strategic Plan, with objectives that include mitigating negative ecological consequences of wildfire, and reducing risk to park infrastructure, sensitive resources, communities, etc., see: <https://www.nps.gov/subjects/fire/wildland-fire-strategic-plan.htm>.

The Oregon Caves FMP fails to identify or address fire suppression activities.

Response: Managing fire for resource benefit objectives is not an option at ORCA due to small size and fuels connectivity with adjacent ownerships, so this was not considered. Fire suppression items from the 2016 FMP MIST/READ guidance has been added to BMPs in current FMP/EA. The Fire Management Plan being developed is separate from the Environmental Assessment and includes numerous operational components of a Fire Management Program not included in the FMP/EA. The NPS has a robust Resource Adviser program and consistently utilizes Resource Advisors on all wildland fires that exceed initial attack.

The most effective way to protect the Oregon Caves Historic District, as well as, museum, archival, or historical materials stored at the Oregon Caves National Monument is through structural hardening techniques, defensible space and securing storage facilities in less vulnerable locations.

Response: Defensible space around structures is identified in the plan, and is a priority. Certain limitations do apply to historic structures. Note that this is not a structural fire management plan. Installing fire wise devices in buildings is part of a structural fire management plan. Structural hardening covered in a separate plan coupled with this planning effort will have the highest reduction of risk to catastrophic fire. Strategic fuel reduction parkwide provides the highest reduction of risk of catastrophic fire. Within the small park acreage, no areas are considered remote from fire danger.

We support the 12" diameter limit identified in the EA, but believe commercial tree or biomass removal is neither necessary or desirable.

Response: Commercial tree removal not planned. Unclear why KFA made this assumption.

Site specific science that was not adequately considered in the Oregon Caves FMP EA.

Response: The KFA are selecting a handful of studies, including well-known controversial scientists (e.g., Hanson), that support their opinion, while excluding the multitude of studies showing fuels treatments can be effective for lowering fire severity and/or slowing fire spread. NPS management is based on the best available science. NPS interpretation of relevant studies supports an active fuels management program in strategic areas to protect values at risk during wildfires, and human life and safety. NPS values the Agee studies completed in 1990 and 1991, but the park also values the referenced literature on climate change and wildfire that will impact the park into the future. Both need to be considered in a Fire Management Plan. NPS is in agreement that a majority of fire science and ecology research on area burned and patterns in burn severity are correlated with climate and previous fire suppression. However, KFA fails to acknowledge the changes to fuel loads caused by previous fire suppression, or the future predictions of increased area burned AND increased burn severity with climate change in the peer reviewed literature. NPS acknowledges the very real current and future threat of wildfire impacting ORCA, and is attempting to increase likelihood of either stopping or slowing a fire burning into the park, or reducing the severity if it does.

Comments from Klamath Siskiyou Wildlands Center (KSWC)

*Several robust populations of California Globemallow (*Iliamna latibracteata*) occur in areas where Forest Service management was followed with slash burning (Pepper Camp area). Planted Douglas-fir trees (i.e., tree farms) now threaten to shade out and kill these rare plants. The Park Service should identify areas where encroaching Douglas-fir are shading out California Globemallow.*

Response: The 2022 FMP/EA and the preferred alternative require that all plant species of special concern would be avoided during prescribed fire operations, unless it is identified that burning enhances a particular species. FMP/EA pg. 37. California Globemallow is a rare plant, without state or federal status, that is a park priority plant that thrives in areas of disturbance including burned areas. It is currently given special consideration and protection during all park operations. The FMP/EA already includes it generally as one of the locally rare plants that will be considered when developing individual projects.

We hope the Park Service will continue to build on the ecological restoration efforts with this FMP effort. Specifically, the forests, meadows, riparian and other ecological systems of the OCNMP evolved with fire as a keystone ecological process for millennia.

Response: The NPS has completed multiple prescribed fire projects in previous fuels treatment areas and the plan moving forward is to utilize a combination of treatment types to achieve management objectives. A majority of previous fuels reduction thinning projects have included pile burning to reduce surface fuels, and NPS understands prescribed fire is an excellent tool to maintain treatments over time. Best available science points to the use of a combination of fuels treatments to achieve risk reduction and restoration objectives.

We are disappointed that the Park Service failed to consider an approach that is gaining traction in the fire management field known as Potential wildfire Operational Delineations (PODs) that can be

identified and used in fire suppression responses. It appears that your linear treatments along roads and ridges could easily be adapted to POD boundaries. We encourage you to work with your neighbors on this important strategy.

Response: ORCA is a relatively small landscape that would not require identification of multiple PODS; in fact, ORCA already falls within a single POD that was developed by the Rogue River-Siskiyou National Forest and is already published. Additionally, ORCA staff are engaged with further POD development efforts on adjacent lands. The FMP is informed by potential control locations and suppression difficulty and a number of projects (horseshoe shaded fuelbreaks) have already been completed on important ridgelines in the Monument, but need to be extended into the preserve. ORCA is too small with too heavy and continuous fuels to consider managing fire for resource benefits in separate PODs. However the FMP will utilize Suppression Difficulty Index/Potential Control Locations (SDI/PCL) and expert knowledge to determine strategic locations for fuels treatments and fireline locations. Larger parks with more natural fuelbreaks and multiple watersheds can utilize PODs in strategic wildland fire planning, but this approach is not appropriate for ORCA.

Comments from US Environmental Protection Agency (EPA)

The EA describes alterations to the interconnected karst landscape can cause cascading effects with respect to both water quality and quantity. Compaction of thin, carbonate derived soils overlaying caves may block epikarst conduits that convey drip water which feed speleothems, underground streams, and their emergent springs. To address these impacts, EPA recommends including in the NEPA analysis additional zones of no mechanical equipment operations that directly overlay mapped cave features to prevent damage from compaction and erosion.

Response: Areas overlying caves are excluded from mechanical treatment by the BMPs that prevent operations on steep slopes and sensitive soil areas. The park has no intention of using equipment directly over known caves. A new BMP (GEOS 03) that prohibits mechanical equipment operations directly overlaying mapped cave features has been added to the FONSI errata, resulting in no change to planned implementation.

EPA also recommends the NEPA analysis include additional Best Management Practices to protect sensitive karst aquatic resources. Points of infiltration (epikarst conduits, sinking streams, and sinkholes) and discharge (springs) can become damaged by soil compaction and erosion causing permanent drainage alteration. Clogging of conduits by soil erosion can block air flow and alter unique cave microclimates. Including setbacks for mechanical equipment operations similar to those proposed for riparian and wetland areas would help conserve the sensitive hydrologic regime.

Response: A BMP (GEOS 03) requiring setbacks for mechanic equipment operating near cave resources has been added to the FONSI errata.

Karst conduits provide direct connections between upland areas and aquatic resources through underground drainage. EPA recommends the NEPA analysis include Best Management Practices of limiting the staging of heavy equipment over cave features where leaks and spills could infiltrate

directly into underground aquatic resources. Such events could cause a loss of air quality, water quality, and mortality for cave dwelling organisms such as amphipods. Additionally, EPA recommends the NEPA analysis include a Best Management Practice restricting fuel storage above mapped caves or areas of suspected cave drainage. Consider a comprehensive spill plan in the event of an accidental release into the cave environment. Because it may not be practicable to contain or clean up a spill that discharges into underground drainage, EPA recommends the NEPA analysis emphasize steps to prevent and avoid releases.

Response: No heavy equipment or fuel storage overlaying mapped marble or karst areas (BMP GEOS 03). This requirement, which has been added to the FONSI errata, should avoid all karst or direct groundwater connections and need for further NEPA analysis. Related equipment BMPs will prevent spill contamination (BMPs WATR 02, WATR 03, WATR 04; FMP/EA Appendix B, pg. B-4).

EPA recognizes the EA's analysis of Environmental Justice Concerns. EPA recommends utilizing the EPA's EJScreen tool to provide data to strengthen the analysis' conclusion that there is not disproportionately high and adverse human health or environmental effects of their programs and policies on minorities and low-income populations or communities.

Response: Based on this comment, the EPA "EJScreen: Environmental Justice Screening and Mapping Tool" (<https://www.epa.gov/ejscreen>) was used to identify populations near ORCA that might be disproportionately affected by the proposed action. Populations within 5-miles and 10-miles of the ORCA polygon centroid were identified. Non-white persons make up less than 10% of the population within both the 5- and 10-mile radii. All population categories within these areas are in the >50 percentile for PM 2.5 (fine particles) and other respiratory risk factors relative to Oregon and USA values. However, these risks cross all population categories. This model confirms the initial FMP/EA analysis that the proposed action will not disproportionately effect minorities and low-income populations or communities. Also, ORCA is completely surrounded by the Rogue River-Siskiyou National Forest, which serves to buffer regional communities from most actions (except prescribed fire or wildfire smoke) that takes place within the park.

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Appendix C: A Non-Impairment Determination

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A Non-Impairment Determination

This non-impairment determination is made for the National Park Service (NPS), Oregon Caves National Monument and Preserve (ORCA, Monument and Preserve, or park), updated Fire Management Plan (FMP).

NPS Management Policies 2006, section 1.4.4, explains the prohibition on impairment of park resources and values: “While Congress has given the Service 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 1916 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. The impairment of park resources and values may not be allowed by the Service unless directly and specifically provided for by the legislation or by the proclamation establishing the park. The relevant legislation or proclamation must provide explicitly (not by implication or inference) for the activity, in terms that keep the Service from having the authority to manage the activity so as to avoid the impairment.”

What is Impairment?

NPS Management Policies 2006, section 1.4.5, “What Constitutes Impairment of Park Resources and Values,” and section 1.4.6, “What Constitutes Park Resources and Values,” provide an explanation of impairment. “Impairment is an impact that, in the professional judgment of the responsible NPS manager, will harm the integrity of park resources or values, including the opportunities that otherwise will be present for the enjoyment of those resources or values.” Section 1.4.5 of NPS Management Policies 2006 states:

“An impact to any park resource or value may, but does not necessarily, constitute impairment. An impact would be more likely to constitute 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, or
- Key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park, or
- Identified as a goal in the park’s general management plan or other relevant NPS planning documents as being of significance.
- An impact would be less likely to constitute an impairment if it is an unavoidable result of an action necessary to preserve or restore the integrity of park resources or values and it cannot be further mitigated. An impact that may but would not necessarily lead to impairment may result from NPS activities in managing the park, visitor activities, or activities undertaken by concessioners, contractors, and others operating in the park. Impairment may also result from

sources or activities outside the park.” Per section 1.4.6 of NPS Management Policies 2006, park resources and values at risk for being impaired include:

- “the park's scenery, natural and historic objects, and wildlife, and the processes and condition that sustain them, including, to the extent present in the park: the ecological, biological, and physical processes that created the park and continue to act upon it; scenic features; natural visibility, both in daytime and at night; natural landscapes; natural soundscapes and smells; water and air resources; soils; geological resources; paleontological resources; archeological resources; cultural landscapes; ethnographic resources; historic and prehistoric sites, structure, and objects; museum collections; and native plants and animals;
- appropriate opportunities to experience enjoyment of the above resources, to the extent that can be done without impairing them;
- the park's role in contributing to the national dignity, the high public value and integrity, and the superlative environmental quality of the national park system, and the benefit and inspiration provided to the American people by the national park system; and
- any additional attributes encompassed by the specific values and purposes for which the park was established.”

Impairment Determination for the Selected Alternative

This determination on impairment has been prepared for the National Park Service selected alternative described in the finding of no significant impact. An impairment determination is made for all resource impact topics analyzed for the selected alternative. An impairment determination is not made for visitor use and experience because impairment findings relate back to park resources and values, and this impact topic is not generally considered to be a park resource or value according to the Organic Act and cannot be impaired in the same way that an action can impair park resources and values.

Based on the evaluation of potential impacts identified in the FMP/EA for Alternative 3 (Manual and Mechanical treatments), the topics evaluated for impairment include the following:

- Air Quality
- Non-native or Exotic Species
- Species of Special Concern or Their Habitat
- Native Vegetation
- Wildlife and Wildlife Habitat
- Cultural Resources - Archeology
- Historic Structures and Landscapes
- Museum Collections
- Geologic Features and Soils
- Water-Related Resources

Air Quality

The amount of smoke expected to be present (from prescribed burns) would not pose a substantial health risk to the visiting public or park staff living at the park. Except for the historic lodge, ranger housing above the Visitor Center, and one ranger house and one duplex a mile distant, there is not any housing within a four-mile radius. Prescribed burning plans would limit the amount of smoke potentially affecting park housing or use areas. All emissions from prescribed burns would occur during spring, fall, or winter when visitation to ORCA is generally very low. All proposed burn projects must be in conformance with the Clean Air Act, the Oregon State Smoke Management Plan and the Oregon Visibility Protection Plan. The reduction of risk of large-scale wildfires on ORCA by implementing the updated FMP treatments would have a cumulative, beneficial, long-term effect on park and regional air quality. (FMP/EA pgs. 27-28 and 35-36). Overall, implementation of the updated FMP Alternative 3 (Manual and Mechanical) treatments will not result in impairment to the park's air quality.

Non-native or Exotic Species

There is a potential for manual and mechanized treatment activities to transfer non-native plant and *Phytophthora* propagules from an infested area of ORCA to a previously un-infested area during the treatment process. This would be avoided by following strict equipment cleaning and inspection protocols prior to moving equipment to a new site. By improving the health and resilience of vegetation through fuels and fire management, native habitats would be more resistant to invasion or infection by non-native or exotic species, providing a cumulative, long-term, beneficial effect. Under Alternative 3, the use of mechanized equipment to expedite vegetation removal from the treatment areas would hasten these beneficial effects. (FMP/EA pgs. 28-29 and 36). Implementation of the updated FMP Alternative 3 (Manual and Mechanical) treatments will not result in impairment to the park's objective to reduce the spread of non-native or exotic species.

Species of Special Concern or Their Habitat

Although ORCA has potential habitat for several federally listed wildlife species, none are known to be present within the park. No spotted owl resident pairs or nests have been detected in the park since 2015. No federally listed plant species are found in the park. All wildlife species of special concern would be avoided during prescribed fire operations spatially and/or temporally. All plant species of special concern would be avoided during prescribed fire operations, unless it is identified that burning enhances a particular species. Before implementation of the updated FMP treatments, each individual project within the park would complete Endangered Species Act (ESA) surveys, be approved by the park's Resource Management Program Lead and through consultation with the US Fish and Wildlife Service (USFWS) under Section 7 of the ESA. Mitigation measures and associated BMPs would prohibit heavy equipment from sensitive areas (FMP/EA pgs. 29-30 and 36-37).

Mitigation measures and BMPs have been established to ensure no adverse effects from the treatments to northern spotted owl (threatened), Franklin's bumble bee (endangered), Pacific coastal marten (threatened), Oregon spotted frog (threatened), and Oregon coast coho salmon (threatened), to

include biological surveys of proposed projects sites prior to treatment. If these or other protected species are detected, NPS will enter consultation with the USFWS before initiating treatments

Implementation of the updated FMP treatments would have a long-term beneficial effect by enhancing, increasing, and maintaining habitats for species of concern. Combined with other ORCA actions to protect wildlife habitat, and regional efforts in fire management, the implementation of the updated FMP treatments would have a cumulative beneficial effect on species of concern and their habitats. (FMP/EA pgs. 30-31 and 36-37). Implementation of the updated FMP Alternative 3 (Manual and Mechanical) treatments will not result in impairment to the park's species of special concern or their habitat.

Native Vegetation

Through manual and mechanical wood removal and careful prescriptions, burns in the park would generally be of low intensity and a slow rate of spread, causing only temporary damage to the plant canopy. Broadcast prescribed burning within the park (both Monument and Preserve lands) will be conducted primarily during the season when most natural fire occurred (April through October). This will be in alignment with native species phenology and life histories; i.e., it will be the type of fire they most likely have adapted to and under appropriate soil conditions (to prevent heat damage to soils). Increased low-severity prescribed burns within the park, combined with prescribed burns by other agencies will greatly reduce potential for large, high-severity wildland fires. These burns will also increase herbaceous density, reducing overland flow associated with intense precipitation events. Each acre treated according to the updated FMP treatments will have a cumulative beneficial effect in restoring the Monument and Preserve to its prehistoric fire cycle. Scenic vistas will be eventually restored. Reducing the amount of shrubs and small trees will accelerate the production of large snags and down logs that are a host for a variety of species, including the wood roach. (FMP/EA pgs. 30-31 and 38). Implementation of the updated FMP Alternative 3 (Manual and Mechanical) treatments will not result in impairment to the park's native vegetation.

Wildlife and Wildlife Habitat

Implementation of the updated FMP treatments will include prescriptions that minimize potential harm to wildlife and their habitats in all portions of the park. Potential adverse effects (removal of plant canopy and cover) will be short-term and, once the plant canopy recovers, will be followed by improved habitat and forage conditions. To protect migratory and other bird species, vegetation trimming and removal will be scheduled outside of peak breeding season (May 1 to June 15) to the maximum extent practicable. All areas will be spot surveyed immediately prior to vegetation removal and all bird nests will be avoided. Implementation of the updated FMP treatments, which includes follow-on maintenance of treated areas, will also have the cumulative beneficial effect of restoring and enhancing pre-settlement ecosystems to the benefit of plant and wildlife species. (FMP/EA pgs. 31-32 and 38-39). Implementation of the updated FMP Alternative 3 (Manual and Mechanical) treatments will not result in impairment to the park's wildlife and wildlife habitat.

Cultural Resources – Archeology

The use of (low-intensity) prescribed fire as part of the updated FMP treatments will aid in the protection of cultural sites by reducing the potential of damage by high-intensity wildland fire. Prior to prescribed fire operations, cultural surveys will be conducted of the planned treatment sites, and concurrence will be obtained from the SHPO. All known sites will be avoided, and any sites discovered during operations will be protected. Potential adverse effects of using heavy equipment on a site will be mitigated by avoiding areas with cultural sites and by following BMPs associated with the treatments. By facilitating the removal of hazardous fuels adjacent to sensitive cultural sites, the use of mechanical equipment will have the long-term beneficial effect of reducing the risk of catastrophic wildfires that could destroy the sites. (FMP/EA pgs. 32 and 38-39). Implementation of the updated FMP Alternative 3 (Manual and Mechanical) treatments will not result in impairment to the park's cultural resources.

Historic Structures and Landscapes

No adverse effects of the prescribed burning and fuels reduction actions are expected under the planned conditions. Smoke from prescribed fire and pile burning, near to the Historic District is unlikely to damage historic building materials or furnishings. Stone benches along trails and all structures outside the Historic District currently being evaluated for potential historic listing will be protected from prescribed burns. Prior to prescribed fire operations, surveys will be conducted and concurrence with the SHPO will be obtained. All known sites will be avoided, and any sites discovered during operations will be protected. Sites will also be protected during wildland fire operations. No mechanical equipment will be used off road surfaces within the Historic District which includes the area immediately around the historic structures and the trail surface of the No Name, Cliff Nature, Lake Mountain and Big Tree trails. A 10-foot no-equipment buffer will be used on these trails along with Limestone Trail. Use or travel of equipment on all park trails will require rehabilitation. Combined with other NPS actions to make historic structures more fire resistant, updated FMP treatments will have the cumulative effect of greatly reducing the likelihood of the buildings or historic landscape features being destroyed by catastrophic wildfires. (FMP/EA pgs. 32-33 and 39). Implementation of the updated FMP Alternative 3 (Manual and Mechanical) treatments will not result in impairment to the park's historic structures and landscapes.

Museum Collections

Where prescribed fire cannot be conducted with complete control, an emphasis will be placed on manual removal of fuels in vulnerable areas. Under the updated FMP, potential harm to the historic structures will be mitigated by using only the appropriate treatment methods near the Historic District. Any prescribed fire conducted near to structures will be properly planned to ensure buildings housing museum collections are avoided and protected. The long-term beneficial effect of fuel reduction near to the Historic District, as well as outside the District, will be to greatly reduce the risk of uncontrolled wildfires that could completely destroy the historic buildings and landscapes. Combined with other NPS actions to make historic structures more fire resistant, implementation of the updated FMP treatments will have the cumulative effect of greatly reducing the likelihood of the buildings, and the museum collections they contain, being destroyed by catastrophic wildfires.

(FMP/EA pgs. 33 and 39-40). Implementation of the updated FMP Alternative 3 (Manual and Mechanical) treatments will not result in impairment to the park's museum collections.

Geologic Features and Soils

Changes in watershed condition caused by wildfire or prescribed fire, could alter the chemistry of water that flows into the Cave system. Existing BMPs in the updated FMP prohibit the use of mechanized equipment on slopes >30% or sensitive areas like streams and wetlands. Additional BMPs have been added to the updated FMP to prohibit use of mechanized equipment on karstic landscapes overlaying caves (e.g., epikarst conduits, sinking streams, and sinkholes, and springs) in order to protect the soils infiltration ability. Implementation of the updated FMP treatments, which include long-term site maintenance and restoration actions will have a cumulative beneficial effect on stream flow and water chemistry, with the prospective of maintaining geologic processes and feature within the caves at their optimal balance. Fuels treatments will reduce the risk of catastrophic, high-intensity wildfires on ORCA, events which could cause massive shifts in stream and cave chemistry as well as destructive levels of soil erosion and sedimentation across large areas. (FMP/EA pgs. 33-34 and 40). Implementation of the updated FMP Alternative 3 (Manual and Mechanical) treatments will not result in impairment to the park's geologic features (including caves) and soils.

Water-Related Resources

The updated FMP treatments will avoid short-term adverse effects on treated watersheds, and Wild and Scenic Rivers, with conservative, established buffers that prevent the reduction of canopy cover adjacent to riparian areas, and prevent potential downstream flooding and sedimentation. Use of mechanized equipment has the added risk of releasing hazardous materials to the soil and streams by leaks or spillage of lubricants, hydraulic-fluids, and fuels. This will be prevented or minimized by applying standard BMPs to use of mechanized equipment. Likewise, the adverse effects of soil erosion and stream sedimentation, caused by mechanized equipment, will be minimized by restriction of equipment to slopes <30%, conservative buffer zones around all riparian and wetland resources, and application of other BMPs. Implementation of the updated FMP treatments will reduce potential for large, high-severity wildland fires. The long-term cumulative effect of these actions will be to improve watershed conditions within ORCA, and restore downstream flows and aquatic habitats to a more functional condition. (FMP/EA pgs. 34-35 and 40-41). Implementation of the updated FMP Alternative 3 (Manual and Mechanical) treatments will not result in impairment to the park's water resources.

SUMMARY

The NPS has determined that implementation of the selected alternative will not constitute impairment of the resources of the park. This conclusion is based on consideration of the park's 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 in NPS Management Policies 2006.