



# United States Department of the Interior

NATIONAL PARK SERVICE  
Sequoia & Kings Canyon National Parks  
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Three Rivers, CA 93271



IN REPLY REFER TO:  
1.A.1

February 13, 2023

## Memorandum

To: Compliance File for KNP Complex Wildfire Tree Hazard Mitigation in Sequoia and Kings Canyon National Parks

From: Elizabeth Boerke, Chief of Environmental Planning and Compliance

Re: Application of the Minimum Requirement Concept to inform scope of KNP Tree Hazard Mitigation Project

In accordance with the Wilderness Act and agency policies, the enclosed is a draft document that applies the initial phase of the minimum requirement concept to evaluating the portion of the KNP Tree Hazard Mitigation Project that proposes to take action within a portion of designated wilderness that borders developed areas and specifically road corridors in Sequoia and Kings Canyon National Parks. (These roads are notably not within wilderness but adjacent to wilderness).

The minimum requirement concept—whose application is typically analyzed and documented by the agency within a Minimum Requirement Analysis (MRA) form—entails an analysis of whether or not action within wilderness is necessary to address the situation at hand (often referred to by the NPS as Step 1) and if so, what action and/or tool is minimally required to address the situation (Step 2 and/or 3).

Given this context, the enclosed material documents the NPS' preliminary findings concerning Step 1 of an MRA. This preliminary analysis assisted park staff in determining whether the NPS should consider an alternative within the accompanying environmental assessment (EA), *KNP Complex Wildfire Tree Hazard Mitigation Environmental Assessment*, that would have considered taking action only outside of wilderness. The EA dismisses this alternative based on the following preliminary analysis.

Because the minimum requirement concept is an iterative process that informs agency decision to ensure actions, if taken, are in accordance with the Wilderness Act, National Environmental Policy Act, and other resource protection laws and policies, this MRA is a draft at this point in time and will only be updated and finalized as the NPS completes compliance with all other federal resource protection laws.

GENERAL INFORMATION

Project Title: KNP Tree Hazard Mitigation

Project Duration: Total scope of work would occur over 6-8 months over the course of 1-3 years within the preferred alternative; a small portion of project scope is proposed within wilderness (i.e., approximately 5% of trees proposed for mitigation are within wilderness and the NPS is not proposing any debris treatment within wilderness post mitigation)

STEP 1:

Determine if any administrative action is necessary.

Description of Situation: What is the situation that may prompt administrative action? What is the reason that you are proposing an action (or actions) in wilderness?

The KNP Complex Wildfire (KNP) burned over 88,000 acres of Sequoia and Kings Canyon National Parks (parks) and other lands during the fall of 2021, resulting in high levels of tree-mortality across the landscape and adding to the already significant levels of conifer mortality due to drought and subsequent beetle outbreaks previously documented within the parks and throughout the Sierra.

Where dead or otherwise defective trees overlap with developed areas, some are considered tree hazards – meaning they pose a direct risk to human safety and property due to the likelihood of their failure and potential to hit a human or man-made target. Some areas of the parks have been closed due in large part to the high quantity of trees that have yet to be mitigated.

The NPS is proposing to mitigate 12,000-15,000 roadside tree hazards occurring over 60 linear miles within the KNP burn perimeter. Of the 2,100 acres where action is proposed, roughly 425 acres overlap with wilderness; an estimated 0.5% of the total KNP tree hazards – roughly 750 – tree hazards are located beyond the wilderness boundary due to their height and potential to reach a target (i.e., human or facility) outside of wilderness.

Given NPS' obligations to promote public use, and the increased risk to public and employee safety posed by the volume of tree hazards along park road corridors, the purpose and need of the proposed action is to restore public access to all frontcountry areas of the parks while mitigating the threat to public safety and NPS infrastructure from tree hazards killed or otherwise damaged by the KNP Complex Wildfire.

**A. Options Outside of Wilderness:** Can actions taken outside of wilderness adequately address the situation and meet project goals?

No. Except in locations where other development or private land is located adjacent to these road corridors, the wilderness boundary is located 100 feet from the centerline of parks' roads. Due to the proximity to the road corridor where action is proposed, some roadside tree hazards are located within the wilderness boundary. These hazards within wilderness pose an ongoing threat to infrastructure (intentional, directional felling can help avoid the target) and employees

or other partners (SCE, PGE, Sequoia Parks Conservancy, Federal Highway Administration, contractors (including those who would complete the tree hazard mitigation work), etc.) who are traveling through or working within these areas so long as they remain standing. Along roadways that are key for residential and public access (i.e., the Generals Highway and Mineral King Road) and thereby remain to the public open but for weather events, these hazards within wilderness also pose a direct threat to residents and visitors who notably stop frequently along even highways in the parks due to visitor congestion and temporary delays for construction work. Tree mitigation work solely outside of wilderness does not abate the risk posed by the estimated 750 trees along these road corridors.

**B. Valid Existing Rights or Special Provisions of Wilderness Legislation:** Is action necessary to satisfy valid existing rights or a special provision in wilderness legislation (the Wilderness Act of 1964 or subsequent wilderness laws)?

No. Notably, the only vehicular access to private land within the Mineral King area is via the Mineral King Road, which is not in wilderness but is included in the purpose and need for action.

**C. Requirements of Other Legislation:** Is action necessary to meet the requirements of other federal laws?

Yes. See laws cited and discussed below.

The Organic Act of 1916 (Law that established the National Park Service)

"Sec.1. .... The service thus established shall promote and regulate the use of the Federal areas known as national parks, monuments, and reservations hereinafter specified by such means and measures as conform to the fundamental purpose of the said parks, monuments, and reservations, which purpose is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."

The 60 linear miles of roadway that is included within the purpose and need of this action (and which has a nexus with wilderness) provides access for visitors to several fundamental resources and values of Sequoia and Kings Canyon National Parks (see Sequoia and Kings Canyon National Parks Foundation Document 2016), namely:

- Sequoia Trees: The Generals Highway provides the only vehicular access to the Giant Forest (one of the largest groves in the parks) and the General Sherman Tree (the largest tree on earth).
- Caves and Karst Systems: Crystal Cave Road (accessible via the segment of the Generals Highway which is also in the project area) provides the only vehicular access to the only cave within Sequoia and Kings Canyon National Parks that is open to the visiting public and is a key visitor destination not unlike the General Sherman Tree.
- Ecological Diversity: The Mineral King Road and Generals Highway both climb from the foothills to sequoia groves, but the Mineral King Road travels to the highest area in the parks accessible by vehicle and provides driving access to subalpine meadows.

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- Scenic Landscapes: The pull-outs along and the winding nature and exposure of the Generals Highway and Mineral King Road provide “outstanding views from rocky river corridors rimmed by picturesque oak woodlands—to a forested pallet of greens contrasted by the red and black of fire-scarred sequoia bark—to wildflower-studded meadows merging into...rugged granite peaks” which are in accessible to many visitors without the existing driving experience along these roadways.

Federal Tort Claims Act

Under the Federal Tort Claims Act of 1946 (28 USC 2671-80 and 1346 (b)), the Service is responsible to reasonably protect visitors as invitees to park lands. The landowning agency can be held liable for any loss of property, personal injury or death which was caused by the negligence with respect to visitor protection.

The Federal Tort Claims Act requires landowning agencies to have superior knowledge of dangers which would not be obvious to the visitor if such dangers are discoverable in the exercise of due care. The agency is then responsible to take reasonable care to avert harm to visitors from such dangers.

Occupational Safety and Health Act

The Occupational Safety and Health Act places a similar burden on federal agencies in their role as employers. Section 5(a)(1) of the act (a.k.a. the General Duty Clause) requires an employer to furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees. OSHA standard 29 CFR 1960.8(a) explicitly establishes this as a basic responsibility of each federal agency. If a hazard exists, citations may be issued under this standard when the following criteria are met:

- The employer fails to keep the workplace free of a serious hazard.
- The hazard is or should have been recognized by the employer.
- There is a feasible and useful method to correct the hazard.

**D. Wilderness Character:** Is action necessary to preserve one or more qualities of wilderness character?

No.

**E. Public Purposes:** Is action necessary to achieve one or more of the public purposes for wilderness (as stated in Section 4(b) of the Wilderness Act): *“recreational, scenic, scientific, educational, conservation, and historical use”*?

Yes. Recreation is a public purpose of the Wilderness Act and actions taken to provide for safe recreational access may further a public purpose of the Act, if they otherwise comply with its provisions. In excluding these road corridors from wilderness designation (i.e., creating a 200 foot-wide “cherry stem” around these roadways through designated wilderness), Congress protected visitor access and associated use of the designated wilderness beyond the road corridor. In particular, the Generals Highway and Mineral King Road (the primary corridors where action would occur) provide access to acres of wilderness and miles upon miles of trails for wilderness recreation, without which access would be severely hampered. Should these roads be closed to abate hazards, wilderness recreation users (or other users, like researchers)

would likely need to hike at least an additional 10 miles (one way) to access trailheads otherwise accessible via non-wilderness roads. For many, this barrier would add days to a wilderness trip and would likely cut off access for many users to more remote locations.

Congress excluded the road corridors at issue from Wilderness at the time of designation, thus providing for the continued use of these road corridors for public and administrative access to the park. In doing so, Congress clearly intended that the NPS would continue to be able to take necessary actions to ensure that access along these corridors is reasonably safe.

**F. Other Guidance:** Is action necessary to conform to direction contained in agency policy, unit and wilderness management plans, species recovery plans, or agreements with tribal, state and local governments or other federal agencies?

Yes. See policy and planning guidance cited and discussed below.

#### Occupational Safety and Health Program (DO-50B)

Under this director's order, parks must identify recognizable threats to employee safety and health and to the protection of property. Where practicable and not detrimental to the Service mandates to preserve park resources, known hazards must be reduced or removed. The superintendent is charged with identifying, evaluating, and controlling occupational health hazards. In the event that an imminent danger condition is found, corrective/protective action will be immediately initiated.

Risk management program elements that are fundamental to an effective safety and occupational health program and for the achievement of Service-wide GPRA goals addressing safety, health, and workers' compensation case management include:

- Identification of existing or potential hazards in the workplace.
- Regular work site inspections with written documentation as required.
- Mitigation of identified hazardous conditions and unsafe work practices.
- Documentation of all identified hazards until controlled or eliminated.
- Visitor protection from all identified hazards which park operations create or should reasonably control.

#### Public Risk Management Program (DO-50C)

This director's order confirms that the saving of human life takes precedence over all other management actions. The Service will strive to protect human life and provide for an injury-free visit, doing so within the constraints of the 1916 Organic Act and available resources. The Service (specifically the park superintendent) will strive to minimize the number and severity of visitor incidents. Through risk assessments, park areas will develop appropriate mitigation strategies, which may include elements of communication, education, facility design, and facility maintenance.

The park will strive to locate, design, build, operate and maintain facilities so as to minimize hazards. All visitor facilities will be inspected on a regular basis to identify and mitigate unsafe conditions. If it is not possible to correct an unsafe condition, the park will take reasonable action to protect the public from that condition.

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### Natural Resource Protection (DO-77)

These guidelines confirm that the Service is responsible to reasonably protect visitors as invitees to parklands. The Service must seek to reasonably protect visitors from unnecessary risks resulting from tree hazards. The program should be directed toward the public welfare. A tree hazard reduction program provides a systematic method for mitigating tree hazards to avert damage to people and property.

NPS-77 identifies the need for park tree hazard management plans: "Even though any tree or portion of a tree may present some degree of risk or hazard to visitors, employees and property simply by its proximity, in most cases only such trees that are determined to possess a structural flaw or structural defect may be deemed hazardous ... The need for these plans arises from the responsibility of the NPS to reasonably protect visitors as invitees to parklands. Failure to do so could make the NPS liable ... A deliberate effort by the NPS to manage for tree hazards will reduce the risks and liability by avoiding vulnerability to claims of negligence or breach of duty."

NPS-77 specifies that each park containing trees should prepare a tree hazard management plan. Tree hazard plans are action plans and are part of the park's natural and cultural resources management plan.

### Management of Tree Hazards Directive (PW-062)

This directive establishes guidelines for a common approach to tree hazard management throughout the Pacific West Region. It prescribes a rating system that provides a logical basis of judging relative degrees of hazards and assigns priorities for management actions.

Regular inspection of developed areas is required. Once a hazardous condition is detected, it must be monitored for the duration of potential exposure to the hazardous condition. If for reasons of insufficient work force, inadequate funding, or some other management constraint, these scheduled surveillance and examination schedules cannot be achieved, the superintendent will ensure public notification about the risk of exposure to known hazardous conditions. Where seven-ratable hazards (e.g., high defect, predisposing lean, and overnight target) potentially may be involved, prompt closure of such areas to public entry must be undertaken.

Once a hazardous condition is detected and rated, exposure should be reduced either through abatement or mitigation. Known hazards should generally be isolated from public use by closing the facility, relocating it, or restricting its use. Otherwise, the hazardous condition should be directly mitigated.

### Sequoia and Kings Canyon National Parks General Management Plan

The parks' General Management Plan (GMP) was finalized in 2006 and the Record of Decision became final in 2008. One of the parkwide desired conditions established by the GMP was: "When practicable and not detrimental to NPS mandates to preserve park resources, known hazards will be reduced or removed. When providing for persons' safety and health is inconsistent with congressionally designated purposes and mandates, or impracticable, efforts will be made to provide for such safety and health through other controls, including closures, guarding, signing, or other forms of education."

The GMP goes on to state that: "Tree crews assess the condition of trees in developed areas, and those that pose a public safety hazard are removed on a priority basis. Storms, wind, insects, and disease all cause tree maintenance work. Because sequoia trees have shallow root

systems, they have been known to topple without warning, and leaning sequoias are closely monitored.”

Vegetation Management Plan for Sequoia and Kings Canyon National Parks

The 1997 Tree Hazard Management Addendum to the 1987 Vegetation Management Plan provides specific and detailed guidance for management of the tree hazard program. The addendum recognizes that not all risks can be removed; a certain level of risk must be accepted.

It recognizes that nearly all trees possess some probability of failure. Tree hazard management becomes a compromise between control cost, aesthetic value, and expected accident losses. The addendum establishes a desired future condition of providing a relatively safe environment for human use and enjoyment. Management action is required whenever there is an identified high priority tree hazard.

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| Preliminary Determination: Is administrative action necessary in wilderness? |
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Yes. Due to the proximity of the wilderness boundary to park roadways, some tree hazards are located within the wilderness boundary. The presence of these hazards threatens the NPS’ ability to meet legal obligations, policy, and management guidance to promote the use and enjoyment of national parks while providing a reasonable level of safety to the visiting public and to provide for safe working conditions for park staff.

In addition to the considerations identified in response to questions A-F above, the NPS considered the following when determining action in wilderness is necessary:

- Some tree hazards could naturally fail tomorrow, for example, in which case action would no longer be necessary and no action would occur within wilderness specific to that individual hazard. Natural failure, though desirable from a wilderness management perspective, does not meet the purpose and need for action as the tree hazard may hit and damage a target (which could result in severe injury or fatality); hence its identification as a hazard. Intentional, directional felling mitigates this risk.
- The risk of failure of tree hazards increases over time as the wood decays further. The longer action is delayed, the more likely it is that natural failures will occur, increasing the risk posed to humans and infrastructure (described below).
- Tree hazards may fail anytime or they could take years to fail naturally. The NPS estimates that without action, these hazards within wilderness could remain a threat for 10-15 years; any abatement would likely need to extend for that long should mitigation not occur within wilderness.
- So long as these tree hazards stand, they pose an increasing threat to infrastructure and more importantly visitors and employees. Administrative/employee access on all road segments is critical for NPS operations (e.g., to ensure further loss of infrastructure such as protecting propane tanks and maintain wastewater treatment plants), and residential access along Mineral King Road is critical for honoring existing rights of private property owners. A number of NPS employees also reside within the middle of the action area, in Lodgepole (along the Generals Highway). Visitor access along the Generals Highway, Mineral King Road, and Crystal Cave Road also provides key access to enable public enjoyment of park fundamental resources and values, including access to trailheads for wilderness recreationists and other users. For these reasons, long term closures of these roadways are not considered to be viable alternatives to abating risk from known tree hazards.

- Although roadways are considered thoroughfares from a tree hazard identification standard (i.e., they are not locations where people are expected to remain for long periods of time so they are often not rated for immediate removal despite the anticipated immediacy of tree failure), the NPS has struggled for at least a decade to maintain a continuous flow of traffic and prevent parking along park roads, particularly the Generals Highway and Mineral King Road where roadside parking, informal pedestrian access, and roadway congestion are frequent occurrences, throughout the high visitation season (i.e., these situations occur throughout the day at least every weekend during the summer and every holiday weekend in the winter). This is particularly true when linear construction projects, such as road pavement preservation and anticipated tree mitigation work in non-wilderness areas, create temporary closures along the road and lead to long back-ups of vehicles which remain onsite for extended periods. For these reasons, other options for abating risk such as warnings, signage, increased communications, etc. are not understood to be valid alternatives for mitigating the threat of the approximately 750 tree hazards located within wilderness along critical access roads within the parks.