

National Park Service  
U.S. Department of the Interior

Crater Lake National Park  
Regions 8, 9, 10, and 12



**FINDING OF NO SIGNIFICANT IMPACT**

March 2022

**TRAIL MANAGEMENT PLAN  
CRATER LAKE NATIONAL PARK**

Recommended:

A handwritten signature in black ink that reads "Sean Denniston".

Digitally signed by SEAN  
DENNISTON  
Date: 2022.03.22 13:15:16  
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Sean Denniston  
Superintendent (Acting), Crater Lake National Park

Date

Approved:

A handwritten signature in black ink that reads "Frank W Lands".

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

Date

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**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 Crater Lake National Park (park) trail management plan. The purpose of this plan is to provide high-quality nonmotorized recreational opportunities while preserving park resources. The plan is needed to address the concentration of existing trails and trail use in localized areas of the park, increased crowding and congestion, and increasing impacts to resources.

This finding of no significant impact (FONSI) documents the decision of the National Park Service to select the preferred alternative in the trail management plan at Crater Lake National Park. The statements and conclusions reached in this FONSI are based on documentation and analysis provided in the *2021 Crater Lake National Park Trail Management Plan/Environmental Assessment* (plan/EA) and associated decision file. To the extent necessary, relevant sections of the plan/EA are incorporated by reference below.

**2. SELECTED ALTERNATIVE AND RATIONALE FOR THE DECISION**

Based on the analysis presented in the plan/EA, the National Park Service selected alternative 1, the NPS-proposed action and preferred alternative. The selected action is provided in the table below.

Category	Selected Action
<p><b>Construction of New Summer Trails</b></p>	<ul style="list-style-type: none"> <li>• <b>Castle Creek Canyon Overlook</b> – Near the existing Old West pullout, this approach will provide a short route to a viewpoint for visitors seeking a more vehicle-based experience at the park. Near the existing Old West pullout, a separate hardened trail will be built on the north side of Highway 62 leading to a new overlook of Castle Creek Canyon. A crosswalk will be built across Highway 62 for pedestrian safety unless other design solutions are determined to be more effective during implementation.</li> <li>• <b>Castle Creek Canyon Trail</b> – This trail will provide visitors with a short, 0.7-mile, out-and-back hike on gentle terrain shortly after entering the park’s western entrance. The hike will offer scenic views into Castle Creek Canyon and provide opportunities for interpretive exhibits relating to the formation of the canyon. The trail’s location, away from dense visitor use along the rim, aligns with the plan’s need to disperse visitor use at the park. To support visitor use of the Castle Creek Canyon trail, a pullout parking area with capacity for up to 10 cars will be established on the north side of Highway 62.</li> <li>• <b>Chevron Trail</b> – This quarter-mile trail on mild terrain will connect existing employee areas and be open to hiking and dog walking.</li> <li>• <b>Falls to Flowers Trail</b> – This 2.5-mile trail will connect the Grayback Trail with several trails to the west. The trail will traverse moderate terrain, while avoiding sensitive vegetation along the rim. This hiking trail will serve primarily as a connector, but ultimately will lead visitors to Vidae Falls near the trail’s eastern terminus.</li> <li>• <b>Mazama Campground Loop Trail</b> – This short, 1.4-mile paved trail on gentle terrain will offer a variety of accessible recreational opportunities for campers and families as well as dog walkers. The trail will loop through the campground with views of Annie Creek Canyon and old growth hemlock trees. This trail will be marked for winter use and open to skiers. The trail will be open to pets in summer and closed to pets in winter. The trail will tie into an existing</li> </ul>

Category	Selected Action
	<p>trail to create a loop experience. The trail will also link to other trails, providing longer excursions to the park headquarters and Rim Village. In developing this trail, the park will consider interpretive opportunities for campers.</p> <ul style="list-style-type: none"> <li>• <b>Mazama Rock Trail</b> – This 1.3-mile trail will offer visitors a loop experience away from the lake in an area featuring geologic spires. The hike will offer a challenging hiking experience in the northeastern portion of the park, where fewer recreational opportunities are currently provided. The existing pullout at Mazama Rock will serve as the trailhead for the Mazama Rock Trail.</li> <li>• <b>Munson Valley Roadside Trail</b> – This trail will provide family and multiuse access from the Mazama campground area to the Steel Visitor Center and connect beyond to the Rim Village Visitor Center via the Munson Valley Spur Trail and the Raven Trail. This out-and-back trail will feature gentle terrain and offer a variety of experiences based on mode of transportation, ranging from short rides for cyclists to longer experiences for those walking to Rim Village. As one of the few paved trails proposed in the plan, it will offer a unique experience for a wide variety of users. For the safety of pedestrians, a crosswalk will be built, allowing trail users to move from the Mazama campground area to the start of the trail. To minimize environmental impacts, the trail will use the existing vehicular bridge at Annie Spring. Beyond that point, the trail will be offset from the roadway and follow an old road corridor to the maximum extent practical. In winter months, the trail will be ungroomed, marked for winter use, and open to snowshoeing/hiking and skiing.</li> <li>• <b>The Munson Valley Spur</b> – This hiking trail will connect the park headquarters area to the major visitor attractions at Rim Village and offer spectacular rim views. This short, 1.5-mile route will traverse moderate terrain, utilizing the route of an old horse trail.</li> <li>• <b>Panhandle Trail</b> – This trail will provide visitors with a 3-mile loop experience along easy terrain through stands of old-growth trees. The trail’s proposed location in the southernmost part of the park will disperse visitor use into an area currently lacking recreational experiences. To support visitor use of this new trail, a pullout parking area with capacity for approximately 10 cars and a trailhead will be established adjacent to Highway 62 unless other design solutions are determined to be more effective during implementation.</li> <li>• <b>Ponderosa Pine Trail</b> – This trail will offer visitors a relatively short, half-mile hike, shortly after entering the park from the south. Unique interpretive opportunities at the site will showcase rare stands of old-growth trees within the park boundary and discuss aquatic habitat in Annie Creek. This low elevation trail will follow easy terrain along the creek.</li> <li>• <b>Raven Trail</b> – The 1.5-mile Raven Trail will connect the park headquarters to Rim Village and Crater Lake Lodge on steeper terrain. The northern destination will offer visitors excellent views of the lake. The proposed alignment will offer visitors an alternative nonmotorized route to connect major points of interest in this area of the park. With establishment of the Raven Trail, trail connectivity is significantly increased to the south, east, and northwest areas of the park.</li> <li>• <b>Union Peak to Stuart Falls Connector Trail</b> – This 5-mile connector trail will create a loop experience for both hikers and equestrians by connecting the Union Peak Trail and the Stuart Falls Trail along steeper terrain. Together with a segment of the Pacific Crest National Scenic Trail (PCT), this will create a loop of approximately 11.5 miles. Users could incorporate this loop into a multiday backcountry experience by connecting to it via the Pumice Flat Trail and/or the Pacific Crest National Scenic Trail from Highway 62. The trail’s location in the southwest portion of the park will fall within recommended wilderness and offer a higher degree of solitude than other trail locations in the park. This connector trail will link key points of interest in this part of the park: Union Peak, Bald Top, and Stuart Falls.</li> </ul>

Category	Selected Action
<b>New Winter Trails</b>	<ul style="list-style-type: none"> <li>• <b>Lady of the Woods Trail</b> – This existing 1.3-mile trail will be ungroomed, marked for winter use, and open to snowshoeing/hiking, skiing, and dog walking. Cultural resources and values found in this area will be interpreted via publications and/or digital media.</li> <li>• <b>North Entrance Road</b> – In winter, the existing 9-mile North Entrance Road will continue to be open to snowmobiles, skiing, and hiking. The superintendent’s compendium will be clarified so that pets, dog-sledding, skijoring, and snow bikes are allowed. Increased information regarding the availability of these winter recreational opportunities on the road will be provided. Snowmobile-use route monitoring and law enforcement patrols of the road will continue to inform future management.</li> </ul>
<b>Changes of Use or Designation</b>	<ul style="list-style-type: none"> <li>• <b>Grayback Trail</b> – This 4.95-mile trail will repurpose the existing Grayback Road to allow for hikers, bikes, dogs, and equestrians, while retaining vehicular access for administrative use. (Note that this change will categorize the Grayback Road as a trail for the purposes of defining visitor use; Grayback Road will continue to be maintained as a road, however, and there will be little to no change in alignment, configuration, materials, or design.)</li> <li>• <b>Pumice Flat Trail</b> – This is currently a hiker-only trail, and the alignment and signage has recently been updated. Allowed uses will be expanded to include equestrians. With construction of the Union Peak to Stuart Falls Connector Trail, a 17-mile backcountry loop experience will be possible for hikers and equestrians from the Pumice Flat trailhead. At the crossing of Highway 62, a crosswalk will be added to better accommodate equestrian use unless other design solutions are determined to be more effective during implementation.</li> <li>• <b>Union Peak Trail</b> – This is currently a hiker-only trail. Allowed uses on the lower portion of the trail, east of the junction with the proposed Union Peak to Stuart Falls Connector Trail, will be expanded to allow equestrians. When combined with construction of the Union Peak to Stuart Falls Connector Trail, this change will make possible a backcountry loop experience that is open to equestrians and hikers from either the Pumice Flat Trail or the Pacific Crest National Scenic Trail.</li> </ul>
<b>Modifications to Parking and Infrastructure</b>	<ul style="list-style-type: none"> <li>• <b>Pinnacles Parking Area</b> – This existing parking area will be expanded to accommodate up to 20 vehicles. A vault toilet and picnic area will also be added near the parking area.</li> <li>• <b>Red Cone Trailhead</b> – Additional horse trailer parking, with up to four oversized-vehicle parking spaces, will be available at the Red Cone Trailhead (North PCT Lot).</li> </ul>
<b>Maintenance of Trails</b>	<ul style="list-style-type: none"> <li>• Trail maintenance will be carried out according to the specified trail class as described in the plan/EA and relevant appendices.</li> </ul>
<b>Alignments for Trails</b>	<ul style="list-style-type: none"> <li>• The new trail alignments shown on the alternative maps and mileages included in tables 2–7 of the plan/EA are based on GIS analysis and limited field surveys. Final alignments will be determined on the ground that could result in minor adjustments to the trail locations shown on the alternative maps. Before construction activities begin, the final alignments will be reviewed by the park’s natural and cultural resources experts to ensure impacts to sensitive resources are avoided or minimized.</li> </ul>
<b>Trail Restoration</b>	<ul style="list-style-type: none"> <li>• Trails removed from the trail system in the future will be obscured and blocked from public access to avoid continued use on a trail-by-trail basis as funding allows. Temporary educational signs will be placed as needed to discourage use. Once removed from the system, trails will be revegetated as necessary. The extent of revegetation efforts will depend on the specific conditions for each route. Natural recovery by native plant species is preferable to planting or</li> </ul>

Category	Selected Action
	seeding; however, planting or seeding will be used as necessary to prevent unacceptable erosion or resist competition from nonnative invasive species.
<b>Visitor Use Management</b>	<ul style="list-style-type: none"> <li>• Indicators, thresholds, monitoring protocols, management strategies, and mitigation measures will be implemented as a result of this planning effort and are described in more detail in appendix A of the plan/EA. The planning team arrived at the following four indicator topics that will translate the goals and objectives into measurable attributes that can be tracked over time: <ul style="list-style-type: none"> <li>○ Visitor-created trails</li> <li>○ Percent change in trail width</li> <li>○ Presence of waste</li> <li>○ Mechanized winter recreation</li> </ul> </li> <li>• Visitor capacity and implementation strategies were identified as a part of the trail management plan and will be a part of the selected alternative. The visitor capacity and implementation strategies identified will help to maintain and achieved desired experiences for visitors and resource conditions and will also meet the legal General Management Plan requirements (1978 NPRA, 54 U.S.C. 100502) to identify visitor capacity. Crater Lake National Park has no prior identification of visitor capacity, and the visitor capacity for the trail system identified in the plan/EA will accommodate additional visitor use from current levels.</li> </ul>
<b>Mitigation Measures and Best Management Practices</b>	<ul style="list-style-type: none"> <li>• The selected alternative incorporates the mitigation measures and best management practices listed on pages 19-25 of the plan/EA.</li> </ul>

The selected alternative includes all actions described as the proposed action/preferred alternative in the plan/EA. As a result of public comment, additional text was added to the “Common to All Action Alternatives – Summer and Winter Use” section regarding consideration of improvements to increase the accessibility of trails and adjoining facilities during trail development. This change did not change the impact analysis in the plan/EA.

### Rationale

Based on the analysis presented in the plan/EA, the National Park Service selected alternative 1, the NPS-proposed action and preferred alternative because it best meets the project purpose to provide high-quality nonmotorized recreational opportunities while preserving park resources.

# Alternative 1 - Selected Alternative

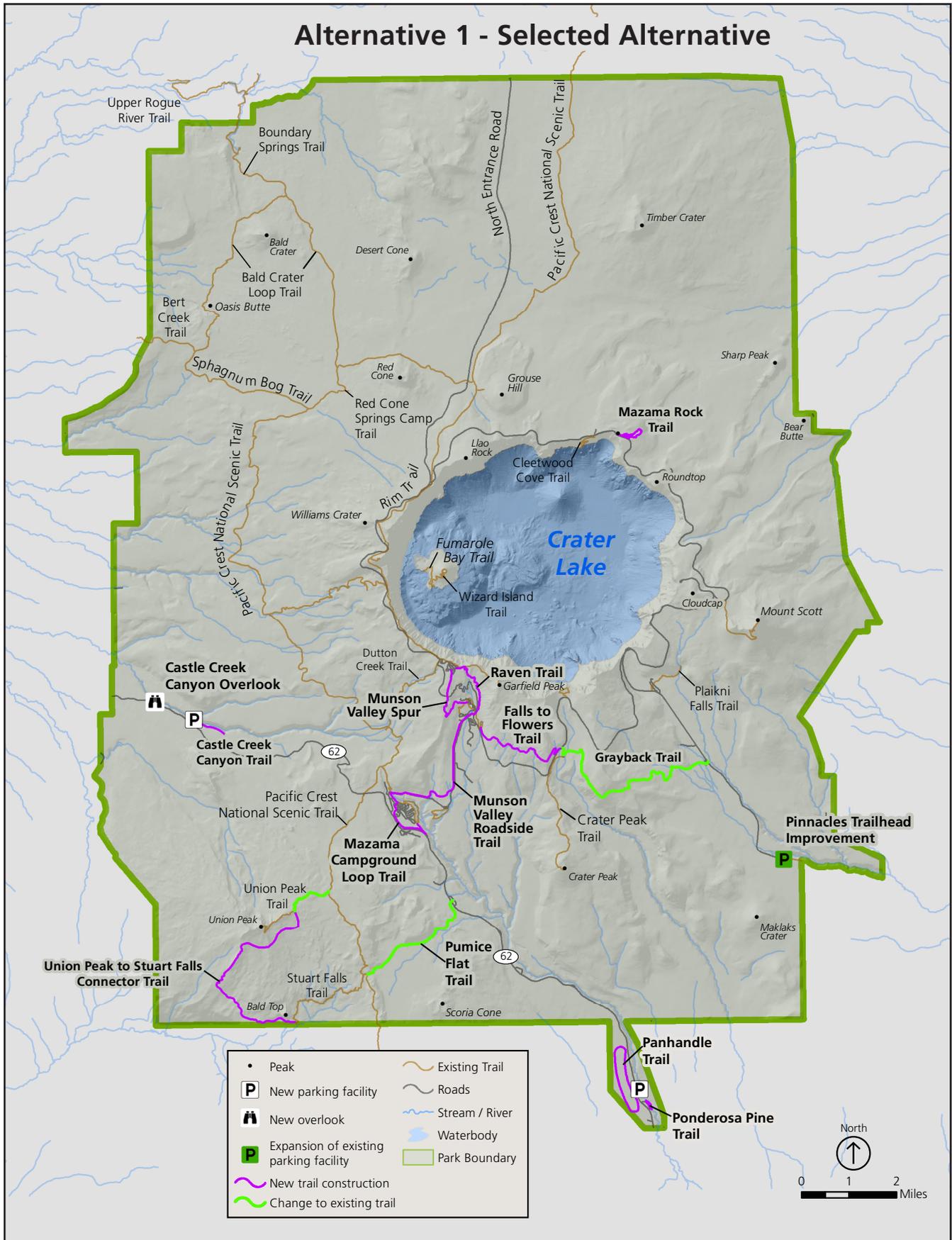


FIGURE 1. NEW TRAILS AND EXISTING TRAILS WITH CHANGES IN USE OR DESIGNATION UNDER SELECTED ALTERNATIVE. (CRATER LAKE TRAIL MANAGEMENT PLAN/ENVIRONMENTAL ASSESSMENT 2021)

### 3. MITIGATION MEASURES

The selected alternative incorporates the mitigation measures listed on pages 19–25 of the plan/EA.

### 4. OTHER ALTERNATIVES CONSIDERED

#### Alternatives Analyzed in the Environmental Assessment

In addition to the selected alternative, the plan/EA analyzed two other alternatives and their impacts on the environment: the no-action alternative and alternative 2.

#### No-Action Alternative

The no-action alternative describes current management of the trail system carried into the future. This alternative represents current conditions and is also a baseline for comparison of the action alternatives. Under the no-action alternative, the management direction established in the 2005 General Management Plan/Environmental Impact Statement would continue. Current management activities occurring on and related to the 95-mile trail network would also continue. No new trails would be constructed. All trails would be marked and maintained according to their assigned trail class and allowable uses.

#### Alternative 2

Alternative 2 proposed the introduction of almost 23 miles of new summer trails with a focus on trail development in the eastern portion of the park. The development of the Vidae Ridge Trail and a Rim Trail segment around the northern, eastern, and southeastern edges of the lake would improve nonmotorized connectivity in some of the park's most popular areas near the rim of the caldera. The complete Rim Trail would provide an additional way for visitors to circumnavigate around the lake and through the park. One additional loop trail, the Maklaks Crater Loop, would be constructed on the east side of the lake. An underutilized trail, the East Bald Crater Loop, would be removed from the trail system.

#### Actions Considered but Dismissed

Several individual actions were considered during the internal and agency scoping. During internal project development, these options were deemed not feasible, out of scope of the current planning process, or had several disadvantages and were not carried forward in either action alternative. They are described below.

- **Closure of East Rim Drive to vehicles.** This proposal is inconsistent with guidance set forth in the park's 2005 general management plan. The majority of park visitors are automobile-based, and total closure of the eastern segment of the road would degrade their experience. This would be too significant an alteration of visitor use patterns and does not meet the purpose and need of the plan.
- **Closure of one lane of East Rim Drive for vehicles and converting it into a multiuse trail.** This option would create one-way vehicular traffic. A barrier would need to be constructed for pedestrian safety. In effect, this would create a one-lane road with no shoulder or passing areas, thus increasing auto-congestion during peak periods. Further, a crowded one-lane road would slow emergency response and threaten visitor safety.

Alteration of the road would also create adverse impacts to cultural landscape character and historic integrity.

- **Expansion of snowmobiles, mountain bikes, and other mechanized and motorized forms of transit into backcountry zones/trails.** This would be inconsistent with the 2005 general management plan and park zoning and with NPS management policies and recommended wilderness.
- **Development of a second access trail to the lakeshore.** Caldera slope instability severely limits options for a second route. One or two possible locations exist, but trail construction would involve adverse environmental impacts to the lake itself. Any constructed trail would then require intensive maintenance, thus diverting funding and personnel resources from the rest of the trail system.
- **Development of trails on and around Llao Rock.** Trail development on the north rim in the vicinity of Llao Rock would necessitate intrusion into the Llao Rock Research Natural Area and would likely lead to a degradation of the unique flora and fauna found there (including rare plants). This would be inconsistent with the purposes for which the research natural area was established.
- **Development of trails near Cascade Springs.** Bank trampling, erosion, and sedimentation in and near springs could affect the water temperature and chemistry as well as water quantity, adversely impacting aquatic species in the springs as well as streams and wetlands downstream. Once disturbed, spring sites can take a long time to rehabilitate. Increased visitor use of the creek and springs would reduce habitat quality and cause some wildlife to avoid the area. The park has experienced a great amount of resource damage at other spring and waterfall areas with high levels of visitor use such as Lightning Springs, Plaikni Falls, and Vidae Falls—in some cases requiring an area closure.

## 5. CONSULTATION

### United States Fish and Wildlife Service

The National Park Service consulted with the US Fish and Wildlife Service 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 is based on information provided in a letter dated November 29, 2021, and subsequent email correspondence. The National Park Service determined that the preferred alternative “may affect but is not likely to adversely affect” the northern spotted owl, bull trout and bull trout critical habitat, and whitebark pine, as these species will likely experience insignificant effects due to the construction of new trails. The National Park Service also determined that the preferred alternative will have “no effect” on those species that do not occur within the planning area, including the shortnose sucker, Lost River sucker, Applegate’s milk-vetch, Greene’s tuctoria, slender Orcutt grass, Oregon spotted frog, and yellow-billed cuckoo.

On February 10, 2022, the US Fish and Wildlife Service 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, bull trout and bull trout critical habitat, and whitebark pine.

## **Consultation with American Indian Tribes**

The National Park Service provided a copy of the draft plan/EA via certified mail on October 4, 2021, to the Klamath Tribes of Oregon and Cow Creek Band of the Umpqua Tribe of Indians. Because the plan/EA is a comprehensive planning tool that proposes a long-term vision for trail management, future consultation with the tribes associated with Crater Lake will occur on a project basis as the park moves forward towards implementing the selected alternative. At this time, the National Park Service does not anticipate any effects to cultural landscapes, archeological resources, ethnobotanicals, or cultural viewshed.

On October 13, 2021, the Culture and Heritage Department of the Klamath Tribes of Oregon provided an official comment via email. The correspondence requested that recent cultural resource surveys completed by a qualified archeologist be completed before any ground disturbance occurs and that all identified cultural sites are flagged and avoided. These requests align with NPS management policies, best practices, and the mitigation measures described in the plan/EA. When more detailed proposals are available, they will be developed and subjected to additional section 106 review and consultation with associated tribes.

## **Consultation with Oregon State Historic Preservation Office**

On October 4, 2021, the National Park Service provided a hardcopy of the draft plan/EA to the Oregon Heritage/State Historic Preservation Office via certified mail. 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 National Park Service moves forward towards carrying out any projects stemming from the trail 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)).

## **6. FINDING OF NO SIGNIFICANT IMPACT**

As described in the plan/EA, the selected alternative has the potential for adverse impacts on soils, vegetation, wetlands and riparian areas, northern spotted owl, whitebark pine, wilderness character, historic structures and cultural landscapes, and visitor use and experience. A detailed analysis of effects can be found in the plan/EA (pages 31–71). However, no potential for significant adverse impacts was identified.

### **Soils**

The environmental assessment found no significant adverse impacts to soils. Construction of new trails and associated facilities will adversely affect 11.8 acres of soils through compaction, loss of topsoil to create trail benches, and loss through erosion; however, mitigation measures and best management practices will be implemented to minimize the effects. The disturbance will be localized to the construction sites, and the proposed action represents an incremental addition to the existing development footprint.

### **Vegetation**

The environmental assessment found no significant adverse impacts to vegetation. Impacts to wetland and riparian areas as well as whitebark pine were analyzed separately; see those topics

below for more details. Construction of new trails and associated facilities will result in 11.8 acres of vegetation being removed. Implementation of management strategies listed in appendix A of the plan/EA, such as improving signage, rehabilitating visitor-created trails, and establishing trail borders, will reduce off-trail travel and minimize adverse impacts from hiking on the trail corridors and adjacent areas. No rare endemic plants, including Crater Lake rockcress, pumice grape-fern, and Shasta arnica, will be adversely affected by any proposed construction or maintenance activities. The proposed actions represent an incremental addition to the existing development footprint, and the species affected are common throughout the 160,000-plus acre park.

### **Wetlands and Riparian Areas**

The environmental assessment found no significant adverse impacts to wetlands and riparian areas. Trail construction will result in the removal of up to 0.11 acres of riparian vegetation in two locations, which will not noticeably alter overall functions of the wetlands because of the small area of ground disturbance in relation to the total acres of wetlands present in the project area. Furthermore, mitigation measures listed in chapter 2 and management strategies identified in appendix A will be implemented to minimize adverse impacts from trail construction, maintenance, and use. No wetlands statement of findings is needed because individual trails where total wetland impacts from fill placement are 0.1 acres or less classify for exemption from the statement of findings and compensation per NPS Director's Order 77-1 requirements (section 5.2.3).

### **Whitebark Pine**

The environmental assessment found no significant adverse impacts to whitebark pine. There will be no specific ground disturbance under the selected alternative with the potential to adversely impact whitebark pine trees. The National Park Service will route trails to avoid whitebark pine and implement the mitigation measures described in chapter 2 to avoid impacts to whitebark pine. Off-trail use by trail users could adversely affect regeneration rates of future whitebark pine trees in the area of some trails. However, implementation of management strategies listed in appendix A of the EA, such as improving signage, rehabilitating visitor-created trails, and establishing trail borders, will reduce off-trail travel and minimize adverse impacts from hiking on the trail corridors and adjacent areas. In a letter submitted to the US Fish and Wildlife Service, the National Park Service determined that the selected alternative may affect, but is not likely to adversely affect, whitebark pine. The US Fish and Wildlife Service concurred with the park's determination on February 10, 2022.

### **Northern Spotted Owl**

The environmental assessment found no significant adverse impacts to the northern spotted owl. Construction and visitor use of trails will impact up to 20.6 linear miles of habitat used by northern spotted owl and their prey species. All of the trail and other construction projects proposed have the potential to increase noise above ambient levels. However, adverse impacts to northern spotted owls and their habitat will be minimized through the implementation of mitigation measures and best management practices listed in chapter 2. For example, trail design will minimize vegetation removal through route location, and revegetation efforts will reconstruct the natural spacing, abundance, and diversity of native plant species in the trail corridor to the extent feasible. In addition, construction activities will not occur within 0.25 miles of an active spotted owl nest site or activity center during the spotted owl breeding season. In a letter submitted to the US Fish and Wildlife Service, the

National Park Service determined that the selected alternative may affect, but is not likely to adversely affect, the northern spotted owl. The US Fish and Wildlife Service concurred with the park's determination on February 10, 2022.

### **Wilderness Character**

No significant adverse impacts to wilderness character were identified. The presence of new trails in wilderness detracts from the opportunity for unconfined recreation; however, the increase in trails under the selected alternative represents an incremental addition to the existing trail system in wilderness. Constructing new trails, expanding parking areas, and installing a vault toilet and picnic area will generate noise and visual intrusions from construction activities that will carry into wilderness. Implementation of mitigation measures and best management practices will reduce impacts, and these impacts will only last for the duration of the construction activities. Use of mechanized or motorized equipment in wilderness will be subject to minimum requirements analyses and is expected to be infrequent and limited to short duration. Establishing visitor capacities and implementing them with appropriate management strategies will result in long-term beneficial impacts to opportunities for solitude.

### **Historic Structures and Cultural Landscapes**

Historic structures and cultural landscapes in the affected environment consist of six documented historic roadways and trails, two bridges, archeological resources, and associated cultural landscapes. Creation of new trails and the expanded uses included in the selected alternative will result in minimal/limited adverse impacts to historic trail segments and other previously identified significant cultural resources. Existing historic material and alignment will be retained. Equestrian use along the Pumice Flat Trail and in the Lodgepole Picnic Area could trample soils and damage in situ archeological artifacts found along the Fort Klamath to Rogue River Wagon Road, but any effects will be localized and will be mitigated through visitor education, collection of surface artifacts, and/or site monitoring. While all impacts to archeological resources are permanent, adherence to the mitigation measures identified in chapter 2 of the environmental assessment and best practices included in NPS *Management Policies 2006* will be expected to avoid or minimize loss or disturbance of significant cultural resources and character-defining features, resulting in no potential for significant adverse impacts.

### **Visitor Use and Experience**

The environmental assessment found no significant adverse impacts to visitor use and experience. Under the selected alternative, the addition of some trail-based opportunities, improved accessibility throughout the system, and improved management of visitation will provide more opportunities for visitors to understand and experience the resources of the park. The additional trail miles included in the selected alternative will disperse use more evenly across the trail system and the park, thereby decreasing crowding and congestion on some of the more popular trails near the caldera rim. The selected alternative will also counteract and help to reduce the long-term adverse effects associated with crowding and congestion expected in the future. The selected alternative will also improve trail connectivity across the system while providing a much wider spectrum of recreational opportunities including horseback riding and bicycling in more diverse settings.

The loss of access to some trails while they are closed for improvements will cause adverse effects to visitor use and experience during the duration of the closure. This impact will be minor as the majority of trails will remain open at any one time and the park will provide timely and accurate communication regarding closures to minimize impact. Under the selected alternative, there will be slightly more opportunity for user conflict as a result of designating more trails for multiple uses, though this impact will be largely mitigated by the improved dispersal of visitors across the trail system and the fact that trails newly designated for multiple uses are anticipated to have relatively low use overall. At Cleetwood Cove, active management of the pace and flow of trail use on peak usage days will adversely impact some visitors who are displaced from visiting. However, these impacts will be largely mitigated through active communication of any change to how access is managed.

### **Public Health, Public Safety, and Environmental Protection Laws**

There will be no significant impacts on public health or public safety. Implementation of the NPS 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. The selected alternative will not have a significant effect on the human environment in accordance with section 102(2)(c) of the National Environmental Policy Act.

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

## APPENDIX A: ERRATA INDICATING TEXT CHANGES TO PLAN/EA

This errata contains corrections and minor revisions to the environmental assessment. Page numbers referenced pertain to the *2021 Crater Lake National Park Trail Management Plan/Environmental Assessment* (plan/EA). The edits and corrections in this errata do not result in any substantial modification being incorporated into the selected action, and it has been determined that the revisions do not require additional environmental analysis. This errata, when combined with the plan/EA, comprises the only amendments deemed necessary for the purposes of completing compliance and documentation for the project.

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

**Page 9.** Castle Creek Canyon Overlook – Near the existing Old West pullout, this approach would provide a short route to a viewpoint for visitors seeking a more vehicle-based experience at the park. Near the existing Old West pullout, a separate hardened trail would be built on the north side of Highway 62 leading to a new overlook of Castle Creek Canyon. A crosswalk would ~~potentially~~ be built across Highway 62 for pedestrian safety, ~~though~~ unless other design solutions are determined to be more effective ~~may be considered~~ during implementation.

**Page 10.** Mazama Campground Loop Trail – This short, 1.4-mile paved trail on gentle terrain will offer a variety of accessible recreational opportunities for campers and families as well as dog walkers. The trail will loop through the campground with views of Annie Creek Canyon and old growth hemlock trees. This trail will be marked for winter use and open to skiers. The trail will be open to pets in summer and closed to pets in winter. The trail will tie into an existing trail to create a loop experience. The trail will also link to other trails, providing longer excursions to the park headquarters and Rim Village. In developing this trail, the park ~~may wish to~~ would consider interpretive opportunities for campers.

**Page 11.** Panhandle Trail – This trail would provide visitors with a 3-mile loop experience along easy terrain through stands of old-growth trees. The trail's proposed location in the southernmost part of the park would disperse visitor use into an area currently lacking recreational experiences. To support visitor use of this new trail, a pullout parking area with capacity for approximately 10 cars and a trailhead would ~~potentially~~ be established adjacent to on ~~the west side of~~ Highway 62, ~~though~~ unless other design solutions are determined to be more effective ~~may be considered~~ during implementation.

**Page 11.** Pumice Flat Trail – This is currently a hiker-only trail, and the alignment and signage has recently been updated. Allowed uses will be expanded to include equestrians. With construction of the Union Peak to Stuart Falls Connector Trail, a 17-mile backcountry loop experience will be possible for hikers and equestrians from the Pumice Flat trailhead. At the crossing of Highway 62, a crosswalk ~~may~~ would be added to better accommodate equestrian use unless other design solutions are determined to be more effective during implementation.

**Page 19.** Trails ~~to be~~ removed from the trail system in the future will be obscured and blocked from public access to avoid continued use on a trail-by-trail basis as funding allows. Temporary educational signs ~~may also~~ would be placed as needed to discourage use.

**Page 19.** Under the heading, “Common to All Action Alternatives – Summer and Winter Use” a new subheading for “Accessibility” is added that reads as follows: All new trails and modifications to existing trails would include consideration of improvements that increase the accessibility of trails and adjoining facilities for people with disabilities. These improvements would be considered on a case-by-case basis during the design and construction phases and implemented to the extent practicable.

**Page 21.** ~~Plant surveys by qualified biologists to determine if rare, threatened, or endangered state or federally listed plant species are present would be conducted before ground disturbance to avoid adverse impacts and ensure appropriate locations and design of facilities. The US Fish and Wildlife Service would be consulted when required for surveys prior to the commencement of construction activities. A buffer surrounding the plants would be imposed that prohibits physical damage to the identified population during construction activities. The Resource Management Division (Botanist or Division Chief) would be consulted when determining the appropriate buffer. If avoidance is infeasible, adverse effects on rare, threatened, and endangered species would be minimized and compensated as appropriate and in consultation with the appropriate resource agencies.~~

**Page 41.** Vegetation removal, riparian vegetation trampling, and soil erosion and runoff caused by trail construction and recreational use would contribute long-term adverse effects to the overall neutral trends in wetlands and riparian vegetation when alternative ~~4~~ 2 is added to past, ongoing, and reasonably foreseeable future actions.

**Page 46.** The habitat loss caused by trail construction and recreational use would add long-term adverse effects to the overall adverse trends in northern spotted owl habitat when alternative ~~4~~ 2 is added to past, future, and reasonably foreseeable future actions; however, it would not contribute noticeable or measurable effects to the overall adverse trends in northern spotted owl populations.

**Page 48.** There would be no specific ground disturbance under alternative 1 with the potential to adversely impact whitebark pine trees. The Munson Valley ~~Spur Road Trail~~ would be constructed within 100 feet of a whitebark pine planting site outside a sufficient buffer to ensure protection of a whitebark pine planting site, and the Panhandle Trail would be constructed within 100 feet of two long-term whitebark pine monitoring plots. There is scattered whitebark pine in the area of the Munson Valley Spur and the Mazama Rocks Trail (J. Hooke, pers. comm.); however, the National Park Service would route the trails to avoid whitebark pine and implement the mitigation measures described in chapter 2 to avoid impacts to whitebark pine. These include conducting studies by qualified biologists prior to ground disturbance to determine if rare, threatened, or endangered species are present and imposing buffers around plants during construction activities to prevent physical damage. Off-trail use by trail users could compromise the success of the plantings and adversely affect regeneration rates of future whitebark pine trees in this area. However, implementation of management strategies listed in appendix A, such as improving signage, ~~rehabilitating visitor-created trails, and establishing trail borders, and prohibiting off-trail travel,~~ would reduce off-trail travel and minimize adverse impacts from hiking on the trail corridors and adjacent areas. Therefore, the actions proposed under ~~the~~ alternative 1 would not be of any new measurable consequence to whitebark pine.

**Page 48.** Construction of the proposed Rim Trail would result in the permanent removal of approximately 1.4 acres of vegetation from within whitebark pine stands. Approximately 0.75

miles of the proposed Vidae Ridge Trail would be routed through mapped whitebark pine stands. Construction of the proposed Vidae Ridge Trail would result in the permanent removal of approximately 0.4 acres of vegetation from within whitebark pine stands.

**Page 49.** Vegetation removal and trampling from trail construction and recreational use would contribute long-term adverse effects to the overall adverse trends in whitebark pine when alternative 1 ~~2~~ is added to past, ongoing, and reasonably foreseeable future actions.

**Appendix C, page 49.** Therefore, the actions under alternative 1 would not result in any new measurable or perceptible consequence to bull trout or designated bull trout critical habitat.

**Appendix C, page 49.** Under alternative 2, the Grayback Trail would repurpose the existing Grayback Road and be open to hiking. Impacts to bull trout under alternative 2 from designation of the Grayback Trail would be even less than those under alternative 1, as biking, horseback riding, and dog-walking would not be allowed. Therefore, the anticipated impacts of repurposing the existing Grayback Road would be so small that they would not be of any new measurable or perceptible consequence to bull trout or designated bull trout critical habitat.

## APPENDIX B: RESPONSE TO SUBSTANTIVE PUBLIC COMMENTS

Most of the written responses to the plan/EA expressed an opinion or preference; some were substantive. A substantive comment is defined by NPS Director's Order 12 as one that does one or more of the following:

- 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 2015 NPS *NEPA Handbook*, "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 27 correspondences, generating 2 substantive comments. Public comments resulted in minor changes to the plan/EA as noted below and in appendix A.

The following are NPS responses to substantive comments received during the public comment period. All page numbers contained herein refer to the *2021 Crater Lake National Park Trail Management Plan/Environmental Assessment*.

### RESOURCE IMPACTS

One commenter expressed concerns about potential environmental impacts to whitebark pine from the construction of the Vidae Ridge Trail under alternative 2.

**NPS Response:** The National Park Service acknowledges these concerns. Construction of the proposed Vidae Ridge Trail would result in the permanent removal of approximately 0.4 acres of vegetation from within whitebark pine stands. The impact analysis has been revised to reflect this (see "Appendix A: Errata Indicating Text Changes to Plan/EA"). Ultimately, this action was not included in the NPS preferred alternative (alternative 1).

### ACCESSIBILITY

One commenter expressed concern about the lack of accessible trails proposed within the plan.

**NPS Response:** Achieving accessibility in outdoor environments presents challenges and constraints posed by terrain, the degree of development, construction practices and materials, and other factors. Appendix D of the plan/EA notes the Architectural Barriers Act Accessibility Standards that are most applicable to trail construction. One example is improved information about the condition and difficulty of trails that would allow visitors of all abilities to make informed decisions about which trails to use. Exceptions to these standards are provided in situations where terrain and other factors make compliance

impracticable. While the plan does not include the designation of trails as accessible, the NPS preferred alternative (alternative 1) would improve accessibility with several new trails having firm and stable surfaces on gentle grades. Furthermore, all new trails and modifications to existing trails will include consideration of improvements that increase the accessibility of trails and adjoining facilities for people with disabilities. These improvements will be considered on a case-by-case basis during the design and construction phases and implemented to the extent practicable. The plan/EA has been revised to reflect this (see “Appendix A. Errata Indicating Text Changes to Plan/EA”).

## APPENDIX C: DETERMINATION OF NON-IMPAIRMENT

### The Prohibition on Impairment of Park Resources and Values

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 plan/EA, the topics evaluated for impairment include the following:

- Soils
- Vegetation
- Wetlands and riparian areas
- Northern spotted owl
- Whitebark pine
- Wilderness character
- Historic structures and cultural landscapes

## **SOILS**

The environmental assessment found no significant adverse impacts to soils. Construction of new trails and associated facilities will adversely affect 11.8 soils through soil compaction, loss of topsoil to create trail benches, and loss through erosion; however, mitigation measures and best management practices will be implemented to minimize the effects. The disturbance will be localized to the construction sites, and the proposed action represents an incremental addition to the existing development footprint. Overall, the selected alternative will not result in impairment to the park's soils.

## **VEGETATION**

The environmental assessment found no significant adverse impacts to vegetation. Impacts to wetland and riparian areas as well as whitebark pine were analyzed separately; see those topics below for more details. Construction of new trails and associated facilities will result in 11.8 acres of vegetation being removed. Implementation of management strategies listed in appendix A of the plan/EA, such as improving signage, rehabilitating visitor-created trails, and establishing trail borders, will reduce off-trail travel and minimize adverse impacts from hiking on the trail corridors and adjacent areas. No rare endemic plants, including Crater Lake rockcress, pumice grape-fern, and Shasta arnica will be adversely affected by any proposed construction or maintenance activities. The proposed actions represent an incremental addition to the existing development footprint, and the species affected are common throughout the 160,000-plus acre park. Overall, the selected alternative will not result in impairment to the park's vegetation.

## **WETLANDS AND RIPARIAN AREAS**

The environmental assessment found no significant adverse impacts to wetlands and riparian areas. Trail construction will result in removal of up to 0.11 acres of riparian vegetation in two locations, which will not noticeably alter overall functions of the wetlands because of the small area of ground disturbance in relation to the total acres of wetlands present in the project area. Furthermore, mitigation measures listed in chapter 2 and management strategies identified in appendix A will be implemented to minimize adverse impacts from trail construction, maintenance, and use. No wetlands statement of findings is needed because individual trails where total wetland impacts from fill placement are 0.1 acres or less classify for exemption from the statement of findings and compensation per NPS Director's Order 77-1 requirements (section 5.2.3). Overall, the selected alternative will not result in impairment to the park's wetland and riparian areas.

## **WHITEBARK PINE**

The environmental assessment found no significant adverse impacts to whitebark pine. There will be no specific ground disturbance under the selected alternative with the potential to adversely impact whitebark pine trees. The National Park Service will route trails to avoid whitebark pine and implement the mitigation measures described in chapter 2 to avoid impacts to whitebark pine. Off-trail use by trail users could adversely affect regeneration rates of future whitebark pine trees in the area of some trails. However, implementation of management strategies listed in appendix A of the EA, such as improving signage, rehabilitating visitor-created trails, and establishing trail borders, will reduce off-trail travel and minimize adverse impacts from hiking

on the trail corridors and adjacent areas. In a letter submitted to the US Fish and Wildlife Service, the National Park Service determined that the selected alternative may affect, but is not likely to adversely affect, whitebark pine. The US Fish and Wildlife Service concurred with the park's determination on February 10, 2022. Overall, the selected alternative will not result in impairment to the park's whitebark pine.

## **NORTHERN SPOTTED OWL**

The environmental assessment found no significant adverse impacts to the northern spotted owl. Construction and visitor use of trails will impact up to 20.6 linear miles of habitat used by northern spotted owl and their prey species. All of the trail and other construction projects proposed have the potential to increase noise above ambient levels. However, adverse impacts to northern spotted owls and their habitat will be minimized through the implementation of mitigation measures and best management practices listed in chapter 2. For example, trail design will minimize vegetation removal through route location, and revegetation efforts will reconstruct the natural spacing, abundance, and diversity of native plant species in the trail corridor to the extent feasible. In addition, construction activities will not occur within 0.25 miles of an active spotted owl nest site or activity center during the spotted owl breeding season. In a letter submitted to the US Fish and Wildlife Service, the National Park Service determined that the selected alternative may affect, but is not likely to adversely affect, the northern spotted owl. The US Fish and Wildlife Service concurred with the park's determination on February 10, 2022. Overall, the selected alternative will not result in impairment to the park's northern spotted owl population.

## **HISTORIC STRUCTURES AND CULTURAL LANDSCAPES**

The selected alternative will result in minimal/limited impacts to historic trail segments and other previously identified significant cultural resources. Approximately 20 miles of new summer-use trails will be developed primarily in the southern and western portions of the park to better disperse visitors and provide them opportunities to experience more areas and features of interest. Cultural resources adjacent to the trails will be protected by thoughtfully locating new formal trails away from visible and sensitive cultural resources as well as managing visitor-created trails and rehabilitating disturbed areas consistent with established indicators and thresholds. New formalized trails will direct users away from fragile cultural resources.

Under existing laws and policies, National Park Service staff will survey and assess project areas and monitor and protect archeological resources, historic structures, cultural landscape features and other cultural resources. Should sites and isolates be identified, they will be noted in an official memo to the decision file and avoided by project redesign. Other best management practices will be implemented to further minimize or avoid project impacts to cultural resources. Actions within the selected alternative will not impair cultural resources.