



Interior Regions 8, 9, 10 and 12

## Replace Wastewater Treatment System Finding of No Significant Impact

August 2021

**Recommended:**

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Kevin Killian  
Acting Site Manager, Devils Postpile National Monument

Date

**Approved:**

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Cindy Orlando  
Acting Regional Director, National Park Service, Interior Regions 8, 9, 10 and 12

Date

# 1. Introduction

This Finding of No Significant Impact (FONSI) documents the decision of the National Park Service (NPS) to select the preferred alternative/proposed action in the Devils Postpile Replace Wastewater Treatment System Environmental Assessment (EA), which is Alternative 3: *Relocate Failed Leachfield and Install New Septic Tanks, Relocate Day Use Comfort Station to Improve Circulation, and Replace Campground Comfort Station in Existing Location*. This alternative was evaluated against Alternative 1: *No Action (Continue Current Management)*, Alternative 2: *Relocate Failed Leachfield and Install New Septic Tanks*, and Alternative 4: *Relocate Leachfield and Install New Septic Tanks, Replace Comfort Stations (Campground and Day Use) In Existing Locations*. These alternatives were described and analyzed in the EA. This FONSI documents the NPS determination that no significant impacts on the quality of the human environment will occur from implementation of leachfield and comfort station construction.

## 2. Selected Alternative and Rationale for the Decision

### **Selected Alternative (Alternative 3): Relocate Failed Leachfield and Day Use Comfort Station**

The selected alternative is *Alternative 3: (Proposed Action/Preferred Alternative) Relocate Failed Leachfield and Install New Septic Tanks, Relocate Day Use Comfort Station to Improve Circulation, and Replace Campground Comfort Station in Existing Location*, as described in the EA. There were no changes to this alternative based on public comments.

As soon as practicable, a new wastewater treatment system (septic tanks and leachfield) will be reconstructed and relocated to NPS-owned lands.

The new wastewater treatment system will be constructed within the monument and will consist of new primary and secondary leachfields (constructed together and used alternately), new septic tanks near each primary facility, a new wastewater holding tank, and connections to the existing sewer force main, water, and electrical power.

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*Percolation Testing:* Prior to determining a final location for the leachfield, percolation tests will be conducted. Percolation testing is necessary to evaluate soil properties and characteristics for determining site acceptability, and to inform the design and size requirements for the future leachfield and septic system. Percolation tests are required prior to obtaining State of California and Madera County construction permits.

*Utility Testing:* Installation of the new sewer lines connecting the septic tanks to the new leachfield also requires excavation to determine the exact location of the existing sewer force main, and any buried electrical and communications utilities. Excavation for utility testing will occur at each of the three locations of proposed septic tank construction, with additional testing at the proposed holding tank near the sewage lift station. Each utility location area will include surface area needed for the excavation, spoil pile, and backhoe staging. The two day use septic tank locations are proposed 200 feet north of the

Visitor Contact/Ranger Station and about 30 feet east of the day use comfort station. The campground septic tank locations will be southeast of the campground comfort station and close to the access road.

*Leachfield:* To serve the existing campground and day use area, a new wastewater disposal (leach) field will be constructed just north of (uphill from) the administration area. The new wastewater system has preliminarily been designed for a capacity of 4,500 gallons per day based on testing in the Reds Meadow Valley in 2015. The size could vary depending on the actual results of percolation testing. This location was selected for its suitable terrain, accessibility from the road, avoidance of sensitive resources, and for its potentially acceptable results from percolation tests and ability to meet the regulatory requirements for a suitable disposal field in terms of area and suitable location.

Madera County requires that a reserve leachfield, of equal area to the primary leachfield, must be identified (secondary leachfield) and dedicated for future installation of a leachfield to replace the primary leachfield when it fails. In the case of the monument, a secondary leachfield with the same characteristics will be constructed adjacent to the primary leachfield.

Approximately 6,000 square feet within an area of 18,000 square feet will be used for each disposal field. The center of this area is located approximately 385 feet north of the administrative area. The disposal fields will be comprised of approximately 20 rows of gravelless disposal laterals, each approximately 100 feet long (2,000 linear feet (lf)). These laterals will have a maximum spacing of approximately 8 feet between the centerline of one leg and the adjacent centerline. Each lateral will be a trench excavated to a depth of approximately 2 feet and will include infiltrator chambers, and 4-inch PVC capped pipes serving as observation and piezometer monitoring portals. The comprehensive disposal field will be suitable for processing up to 4,500 gallons of wastewater per day. Leachfield laterals could be constructed using a small backhoe or similar equipment and will be threaded through the area to avoid the largest trees.

The proposed leachfield site is in open lodgepole pine forest, with a sparse understory of shrubs, forbs and grasses. Approximately 25 small trees (0.5 – 8 inches in diameter at breast height (dbh)) in each leachfield will need to be removed. Recently, several trees > 8 inches dbh have been killed or weakened by mountain pine beetle (*Dendroctonus ponderosae*) and drought conditions. These trees may also be removed to ensure safety of equipment operators during the installation of the infiltrator lines.

*Septic Tanks:* A 2,000-gallon septic tank will be placed in the administrative area, and 12,000-gallon tanks will be placed near the day use comfort station (1), and near the campground comfort station (1). Two existing (abandoned and filled) septic tanks will continue to remain near the comfort stations. The 12,000-gallon fiberglass septic tanks will be approximately 44 x 12 x 10 feet and the 2,000-gallon fiberglass septic tank for the administrative area will be approximately 14 x 8 x 10 feet. Excavation for the tanks will require heavy equipment and the structures will be brought to the site on a flatbed truck, lifted off the flatbed, and set into place using a small rubber-tired crane. The project will also require approximately 2,500 lf of sewer pipe to connect the new leachfield to the three septic tanks.

Of this total of 2,500 lf of sewer pipe, about 550 lf is needed to extend from the end of the existing newer sewer force main (150 lf up the road from the sewage lift station installed in 2016) coming from the sewage lift station and going up along the paved road's dirt shoulder up to the northern end of the proposed drainfields. Another estimated 225 lf of sewer force main will extend from the unpaved shoulder of the paved road to the drainfields' header piping. Most of the estimated remaining 1,725 lf of sewer pipe will be used within the drainfields to evenly distribute the wastewater (septic tank effluent)

to each of the legs of the drainfield. There is also an estimated 100 lf of new sewer pipe needed to connect the new septic tanks (and holding tank near the sewage lift station) to the existing sewer lines that connect the existing comfort stations to the sewage lift station and the administrative area's sewer lines to the sewage lift station.

For the day use comfort station, the new septic tanks will be in the adjacent day use parking area. The campground comfort station septic tanks will be constructed to the south side of the comfort station going toward the east and partially in the loop road, and the administrative area septic tank will be constructed where there is an existing manhole behind the superintendent's office.

The new septic tanks for the campground comfort station, day use comfort station, and administration area will be connected to existing sewer lines that presently convey raw wastewater from these areas to the existing sewage lift station.

*Sewer Force Main:* There will also be a section of new sewer force main constructed from the sewage lift station up to the leachfield areas following the road alignment up to the north end of the secondary leachfield and then running east from the secondary leachfield to the primary leachfield. The section of force main that this replaces will be removed.

*Wastewater Holding Tank:* To slow the time needed during peak periods for the wastewater to reach the leachfield, an 8,000-gallon wastewater holding tank (30 x 12 x 10 feet) will be constructed near the sewage lift station. The proposed holding tank will provide additional capacity for the anticipated increase in wastewater generated during peak visitation periods (e.g. 4<sup>th</sup> of July and Labor Day weekends).

#### *Day Use Comfort Station*

The Day Use Comfort Station, a Mission 66 era building found to be ineligible for the National Register of Historic Places (NRHP) in April 2019 (Reference # NPS\_2019\_0304\_001), will be demolished and replaced with a new, slightly larger, single building. The current accessible restroom will also be removed, and the area converted to a parking area. The new building will be relocated along the same side of the roadway as the historic Visitor Contact/Ranger Station to improve wayfinding and safety by decreasing pedestrian/vehicle conflicts associated with the current visitor drop-off/bus access configuration.

#### *Campground Comfort Station*

The campground comfort station, also constructed during Mission 66 and also found to be ineligible for the NRHP (Reference # NPS\_2019\_0304\_001), will be reconstructed in its current location. Depending on visitor needs and/or wastewater treatment system capacity, it could also be replaced with new vault toilets instead. Vault toilets in this area will reduce some operations and maintenance needs and reduce the need for supplemental portable toilets on peak days.

#### *Overnight Administrative Facilities*

Monument overnight administrative facilities will retain their current capacity and be maintained in their current locations. There will continue to be one cabin with a kitchen and bathroom, three hard-sided cabins with kitchens, and three tent cabins with no facilities. An employee common building provides a kitchen and bathrooms for up to six tent cabin residents and bathrooms for up to five hard-sided cabin residents.

### *Staging Areas*

Staging for the proposed project will occur in a previously disturbed unpaved parking area near the day use comfort station. Other areas identified for staging, if needed, will be in previously disturbed parts of the administrative area or the maintenance boneyard.

### **Rationale for the Decision**

Based on the analysis presented in the EA, the NPS selected Alternative 3, the NPS proposed action/preferred alternative, because it best meets the project's purpose and need. The selected alternative consists of all actions described as the proposed action/preferred alternative in the EA; there are no modifications incorporated herein as result of public comments or agency consultation.

Under the selected alternative, the park will construct a new wastewater treatment system to serve administrative and public facilities. The selected alternative will allow for replacement of the existing comfort stations. The selected alternative protects the area's natural resources, cultural resources, and human health and safety in the project area.

## **3. Mitigation Measures**

The following mitigation measures were described in the EA following each resource section in Chapter 4: Affected Environment/Environmental Consequences (pp. 31- 64).

### **Mitigation Measures Incorporated in the Selected Alternative**

<b>Mitigation Measure</b>	<b>Responsible Party</b>
<b>Soils</b>	
New facilities would be built on soils suitable for development.	Project Manager
Staging areas would be located where they would minimize new disturbance of area soils (such as in parking areas).	Project Manager
The project construction areas would be narrowly defined to minimize disturbance outside building footprints. This includes clearly marking and delineating construction limits using fencing or other means.	Project Manager
Where possible, existing roads, trails and established pathways would be used to access construction areas.	Project Manager
Soil erosion would be minimized by limiting the time soil is left exposed and by applying other erosion control measures such as erosion matting, silt fencing, and other measures in construction areas to reduce erosion, surface scouring, and discharge to water bodies.	Project Manager
Excavated soils would be reused to the extent possible.	Project Manager
Project managers would be required to implement the monument's invasive plant management prevention and treatment program.	Project Manager Chief, Natural Resources and Visitor Services
Once work is completed, construction areas would be revegetated with appropriate native plants in a timely period according to revegetation plans.	Project Manager Chief, Natural Resources and Visitor Services
Where excavation occurs, approximately one inch of reserved topsoil would be excavated and stored separately and replaced upon back-filling.	Project Manager
<b>Water Resources</b>	
Maintain fence and sign near the flood channel to discourage camping.	Chief, Natural Resources and Visitor Services

Develop and implement a spill prevention and response plan and acquire supporting equipment to mitigate potential effects.	Project Manager Chief of Maintenance
Develop sediment control and prevention plans and implement best management practices for projects that could impact water quality.	Project Manager
Conduct regular inspections of construction equipment and vehicles for leaks of petroleum and other chemicals to prevent water pollution.	Project Manager
Locate staging areas well away from places where runoff could affect nearby water bodies.	Project Manager Chief, Natural Resources and Visitor Services
Minimize the amount of disturbed earth and the duration of soil exposure to rainfall where possible.	Project Manager
Implement stormwater management measures to reduce nonpoint source pollution discharge from parking lots and other impervious surfaces using swales and revegetation of road and parking edges.	Project Manager
Use swales, trenches, or drains to divert stormwater runoff away from disturbed areas during construction.	Project Manager
Use temporary sediment control devices such as filter fabric fences, or sediment traps as needed during work near water.	Project Manager
Wash heavy equipment and vehicles prior to use near water bodies.	Project Manager
Use bio-lubricants (such as biodiesel and hydraulic fluid) in construction equipment.	Project Manager
Conduct project activities near wetlands in a cautious manner to prevent damage from equipment, and related to compaction, erosion, siltation, etc. Apply protection measures during projects.	Project Manager
Reduce and reuse wastewater.	Project Manager
<b>Vegetation</b>	
Where possible, existing roads, trails and established pathways would be used to access construction areas.	Project Manager
The size and number of staging areas would be minimized, and materials stored for long periods would be covered.	Project Manager
The project construction areas would be narrowly defined to minimize disturbance outside building footprints.	Project Manager Chief, Natural Resources and Visitor Services
Construction limits would be clearly marked and delineated using fencing or other means.	Project Manager
Revegetation plans would be developed for disturbed areas and would require the use of genetically appropriate native species. Revegetation plans would specify species to be used, seed/plant source, seed/plant mixes, site specific restoration conditions, soil preparation, erosion control, ongoing maintenance, monitoring requirements, etc. Salvaged vegetation would also be used to the greatest extent possible.	Project Manager Chief, Natural Resources and Visitor Services
Monitoring would occur to ensure that revegetation was successful, plantings were maintained, and unsuccessful plant materials were replaced (NPS 2009:71-72).	Chief, Natural Resources and Visitor Services

Excavate and store approximately one inch of topsoil, separately from subsoil.	Project Manager
Preserving this native soil and capping subsurface excavations would reduce the risk of invasive plant introduction, establishment and spread and facilitate native plant establishment.	Project Manager
<b>Noxious Weeds</b>	
The monument's invasive plant prevention, treatment and management plan focusing on prevention and rapid response would be implemented.	Project Manager
Areas of concern for noxious weeds would be identified prior to construction.	Chief, Natural Resources and Visitor Services
Soil disturbance would be minimized and re-seeding or revegetating disturbed areas would occur as soon as practicable.	Project Manager
Construction equipment would be cleaned of mud and seed-bearing material and inspected prior to use in the monument, including recommending repeat cleaning at the contractor's expense, if needed.	Project Manager
Noxious weeds in the project area or borrow materials used in the project would be treated prior to construction use.	Project Manager
Fill materials imported from outside the park would be from approved sources and would be inspected and/or approved by NPS staff prior to importation into the park to avoid inadvertent importation of invasive species.	Project Manager Chief, Natural Resources and Visitor Services
Materials used in project work would be transported and stored so as not to acquire noxious weed seeds from adjacent areas.	Project Manager
The project area would be monitored for three years post construction for undesirable plant species (exotics) and control strategies implemented if such species occur.	Chief, Natural Resources and Visitor Services
Revegetation would use only native species, appropriate to the site.	Project Manager Chief, Natural Resources and Visitor Services
Completion of projects would include naturalizing disturbed areas by adding rocks, soil, or duff to areas without vegetation or needing restoration.	Project Manager Chief, Natural Resources and Visitor Services
<b>Wildlife</b>	
Actions would employ techniques to reduce direct human impacts to wildlife, including visitor education programs, proper food storage, restrictions on visitor and park activities when warranted, development and use of best management practices for management activities (including construction), permit conditions, temporary and/or permanent closures of sensitive sites, and law enforcement patrols.	Project Manager
Construction project managers would implement measures to reduce introduction of nonnative plants (see Vegetation section).	Project Manager
Modifications to area habitat would protect and preserve critical habitat features, such as nest and granary trees and migration corridors, to the extent possible. In this project, the largest trees in the leachfield would be avoided during installation of infiltrator lines.	Project Manager Chief, Natural Resources and Visitor Services
Prior to removing trees in the proposed leachfields, survey of the trees would occur to ensure bird nesting activity has concluded.	Project Manager



	Chief, Natural Resources and Visitor Services
<b>Special Status Species</b>	
Facilities/actions/operations have been located and designed to avoid or minimize impacts on special status species habitat	Project Manager
Mitigation actions would occur during normal park operations as well as before, during, and after projects to minimize immediate and long-term impacts on rare, threatened, and endangered species. These actions would vary by project area, and additional mitigation measures may be added depending on the action and location. Many of the measures listed for vegetation, wildlife, and water resources would also benefit species that are rare, threatened, endangered and/or of management concern by helping to preserve or minimize impacts on habitat.	Project Manager
<b>Yosemite Toad</b>	
Surveys for toads in potential breeding habitat within and adjacent to the project area would be conducted prior to any project work.	Chief, Natural Resources and Visitor Services
Wetland areas that have habitat elements for the Yosemite toad would be avoided and in the unlikely event that disturbance was to occur, surveys for Yosemite toads would be completed. If a toad is detected, work would be deferred until they were no longer present, depending on recommendations from the USFWS.	Project Manager Chief, Natural Resources and Visitor Services
Any open trenches or holes in the project area would be covered when project work was not in process to avoid entrapment of wildlife.	Project Manager Chief, Natural Resources and Visitor Services
<b>Pacific Fisher</b>	
Although it is highly unlikely that a fisher would be denning or observed within the monument, work crews would be taught how to identify fisher and notify the park wildlife biologist if a fisher is seen. If a fisher is spotted within the area where work is occurring, work would cease until the animal moves on naturally.	Project Manager Chief, Natural Resources and Visitor Services
Food and anthropogenic garbage would be stored in park-approved containers so fishers cannot obtain it.	Project Manager Chief, Natural Resources and Visitor Services
Ensure construction fencing allows for the safe passage of fishers and does not cause entrapment.	Project Manager Chief, Natural Resources and Visitor Services
<b>Cultural Resources</b>	
Archeological surveys would precede any ground disturbance and actions would be modified, if needed to avoid disturbance.	Project Manager
All project-related ground-disturbing activities would be monitored with oversight by a professional archaeologist qualified under the Secretary of the Interior's Standards.	Project Manager
The archeologist would, at a minimum, hand screen a sample of soil from each bore hole, and from three locations over the length of the trench at varying depths. Screening more samples would be at the professional discretion of the archeologist.	Project Manager



The monument would manage projects to avoid adverse impacts to properties determined eligible for listing or listed in the National Register of Historic Places. If adverse impacts cannot be avoided, mitigation measures would be developed in consultation with SHPO, tribes, and other consulting parties pursuant to 36 CFR Part 800, the implementing regulations for the National Historic Preservation Act.	Project Manager
Consultation with tribes and groups regarding monument undertakings with the potential to affect resources of cultural and religious significance would ensure tribal perspectives are understood, and adverse effects are avoided or minimized.	Project Manager
Tribal monitoring requirements, if any, would be identified during consultation.	Project Manager
In compliance with NAGPRA, the NPS would also notify and consult concerned tribal representatives for the proper treatment of human remains, funerary, and sacred objects should these be discovered during the project.	Project Manager
Should unknown archeological resources be uncovered during construction, work would be halted in the discovery area, a cultural resources specialist contacted, the site secured, and an Inadvertent Discovery Plan implemented, including consult with SHPO and tribal entities according to 36 CFR 800.13, and, as appropriate, implementing provisions of the Native American Graves Protection and Repatriation Act (NAGPRA) of 1990.	Project Manager
If necessary or possible, relocation of the work to a non-sensitive area would occur to enable more site testing and documentation. Every effort would be made to avoid further disturbance to the site. If relocation could not occur, then mitigation would include documentation of the site to appropriate standards based on consultation with the State Historic Preservation Officer and other experts as applicable.	Project Manager
<b>Visitor Experience</b>	
Projects would use sustainable practices and resources whenever practicable by recycling, reusing, and minimizing materials, minimizing energy consumption during construction, and reducing energy needs throughout the lifespan of the project.	Project Manager
As required by Management Policies (NPS 2006), new buildings would be designed to meet a minimum silver LEED standard.	Project Manager
Prior to and during construction, press releases to local media would inform visitors about conditions in the park during the project.	Project Manager
During construction, signs would inform visitors of the construction activities and of potential closures or delays. Barriers and barricades, signs and flagging, as necessary or appropriate, would be used to clearly delineate work areas and provide for safe pedestrian travel through the construction area.	Project Manager
As stated in the Devils Postpile Climate Friendly Parks Action Plan, the monument would reduce greenhouse gas emissions by increasing energy	Project Manager

efficiency in all park buildings and housing, utilizing alternative energy sources when possible, and reducing transportation-related emissions through behavioral change.	
Finish construction would include providing vegetative screening, where appropriate.	Project Manager

## 4. Other Alternatives Considered

### Alternative 1: No Action

Until such time as failure occurs or the waiver is withdrawn, the monument would have continued to operate the current wastewater treatment system. During this interim period, the campground would have likely continued to be closed to reduce the amount of wastewater produced.

The existing wastewater system would have continued to use a pump to move effluent through a 4-inch force main to the leachfield located near Rainbow Falls on USFS land in the Inyo National Forest. As described in the sidebar, beginning in the 1980s, the USFS and NPS have been dependent on the sewer line that follows the Reds Meadow Road to the leachfield and septic tanks at the Rainbow Falls Trailhead since the 1980's. In 2018, however, the USFS discontinued the use of flush toilets at all recreation facilities throughout the Reds Meadow Valley when the current system at Rainbow Falls was determined to be failing and in need of replacement rather than repair.

Under this alternative, portable chemical toilets serviced on a regular basis would have been used to partially address transient public wastewater needs if the septic system failed. Portable toilets, however, are not be suitable for overnight accommodations (e.g. shower and sink wastewater, etc.) for either onsite administrative staff or the public. If employee facilities continued to operate without a wastewater treatment system, the wastewater would have had to have been collected and hauled to a sanitary receiving station qualified to accept human waste. The closest such facility is in the Town of Mammoth Lakes.

Alternatively, the park could discontinue use of visitor and employee facilities dependent on the wastewater treatment system, including the existing comfort stations, water fountains, and employee and administrative facilities and supply portable toilets, until a future solution was identified.

### Alternative 2: Relocate Failed Leachfield and Install New Septic Tanks

Alternative 2 would have been the same as the Selected Alternative, except for the following components.

#### Comfort Stations

##### *Day Use Comfort Station*

The comfort station and adjacent separate accessible restroom, currently serving the day use area, would not be modified, and would have been maintained in their current locations.

##### *Campground Comfort Station*

The campground comfort station and adjacent separate accessible restroom would have been maintained in their current location. In the future, the buildings could have been replaced with new vault toilets if the campground was converted to a day use area. Vault toilets in this area would have reduced some operational and maintenance needs.

### Peak Management Strategy

Currently, there are frequent shutdowns of the day use comfort station. This is attributed to both the age and the type of plumbing used, and because the comfort station is frequently used beyond its capacity due to the number of visitors that arrive at one time via shuttle bus.

The park has sought expertise to develop a peak management strategy. Monitoring usage during peak periods and shutting off flush toilets as necessary while directing visitors to the vault toilets and, in extreme situations, adding supplemental portable toilets are among the likely options. The wastewater holding tank has been sized to hold two days' worth of wastewater flow (8,000 gallons). This capacity allows for all but the highest peak weekends. Locating a holding tank downgrade from the comfort stations, near the sewer lift station would accommodate some peak periods. Above peak days (e.g. 4<sup>th</sup> of July and Labor Day weekends and special events) can be accommodated using additional portable or vault toilets.

### **Alternative 4: Relocate Leachfield and Install New Septic Tanks, Replace Comfort Stations (Campground and Day Use) In Existing Locations**

Actions would have been the same as Alternative 3, except for the location of the day use comfort station and rehabilitation actions would have been the same as in Alternative 2.

#### Comfort Stations

##### *Day Use Comfort Station*

The same issues regarding the day use comfort station and its anticipated replacement components described in Alternative 3 would have applied to Alternative 4, however the Day Use Comfort Station would have been replaced in its current location.

Instead of being moved on the same side of the road as the visitor contact/ranger station area circulation would have been modified to reduce potential pedestrian/vehicle conflicts but visitors would still have needed to cross the roadway to access the Visitor Contact/Ranger Station (Figure 7). The buildings would be so close together that there would be no need for signs to direct visitors. Pathways to the comfort station would have been established similar to Alternative 2.

##### *Campground Comfort Station*

As in Alternative 3, the campground comfort station would have been reconstructed in its current location and would have included a camper sink and water bottle filling station.

## **5. Public Involvement/Agency Consultation**

Internal scoping began in summer 2016, with the notification that the leachfield was failing. The park worked with regional NPS, Yosemite National Park, State Historic Preservation Office, and county staff during the development of the proposal for the selected alternative.

Civic engagement during preplanning for this EA occurred during a formal civic engagement comment period from March 17, 2021 to April 1, 2021. Although numerous press releases were distributed, including to the park's mailing list, no public comments were received.

Approximately 80 park media contacts and stakeholders were sent press releases. Because the park was in winter operations at this time, no outreach occurred through the park newspaper.

#### Public Comments on EA

The public comment period on the Replace Wastewater Treatment System Environmental Assessment was open from June 7, 2021 through July 7, 2021. The opportunity for public review was advertised through an official press release, and through the PEPC website. The public was directed to use PEPC for submitting comments. Three comment letters were received, all via PEPC, fully or generally supporting the proposed project. No substantive comments were received, however the team decided to respond to one comment (Appendix B) to clarify what would occur if the tests are unsuccessful.

Nearly all concerns were about issues addressed in the EA, including about the sustainability of proposed improvements associated with increasing visitation, and whether the park had considered converting existing flush toilets to vault toilets. One commenter was concerned about protecting park resources during excavation. Another comment (outside the scope of the current EA) mentioned the relationship of the current project to carrying capacity for the park.

One commenter, however, was concerned about what would happen if the percolation tests fail. The EA considered but dismissed two preliminary alternatives that address this question. The following explanation provides further detail about these dismissed alternatives.

Although it is unlikely that the percolation and pit test would fail because according to the engineer, the proposed area for the leachfield is substantially the same as the area now used for the Rainbow Falls leachfield, it is possible that there could be a hardpan or some subsurface impediment to allowing for the needed percolation rate in the proposed leachfield. If that occurred, the monument would have several options, at least two of which could alter the ability of the monument to provide flush toilets for its staff and/or visitors.

One option would be to construct an engineered bed drainfield, which was considered during the preliminary alternatives discussion (but which was missed in the *List of Alternatives and Actions Considered but Eliminated from Detailed Study*). This alternative was dismissed primarily because it would have many more resource impacts than the other alternatives considered and be cost-prohibitive under the current project scenario. This option would have required importing an extensive amount of engineered fill material that would cover over a suitable area and which could result in the desired percolation rate. Although such an engineered leachfield could be constructed, there is no suitable area in the monument to construct it without removing a large area of trees and grading it to accept the fill.

Another option would be to construct a smaller drainfield that would serve only staff or only visitors. This alternative (bullet 2 in the EA in *List of Alternatives and Actions Considered but Eliminated from Detailed Study*) was formally considered but dismissed.

Still another option would be to consult again with the USFS about areas outside the monument's boundary, where another drainfield could be constructed. This alternative and several variations (see bullets 4, 5, and 6 in the *List of Alternatives and Actions Considered but Eliminated from Detailed Study*) was also considered but dismissed in the EA.

### Agency and Tribal Consultation

During the preparation of the EA, outreach was conducted with park-affiliated tribes. Letters were sent to the following tribes when the proposal for the percolation and utility location testing was developed and when it was modified (July 29, 2020).

- Big Pine Paiute Tribe of Owens Valley
- Bishop Paiute Tribe
- Bridgeport Indian Colony
- Utu Utu Gwaitu Paiute Tribe of the Benton Paiute Reservation of California
- Fort Independence Community of Paiute Indians of Fort Independence
- North Fort Rancheria of Mono Indians
- Mono Lake Kutzadikaa Paiute Tribe
- Lone Pine Paiute-Shoshone Tribe

Because no responses were received, additional efforts to contact the tribes were made during the public review period for the EA. Despite this, no additional comments were received or concerns raised.

### California State Historic Preservation Office

In accordance with Section 106 of the National Historic Preservation Act, the National Park Service provided the State Historic Preservation Officer (SHPO) of the California State Department of Archaeology and Historic Preservation an opportunity to comment on the area of potential effects associated with this project and the identification of historic properties within that area.

The NPS prepared a Determination of Eligibility (DOE) to evaluate the entire developed area for eligibility to the NRHP as a district. The buildings, structures and sites within the district were also assessed for their individual eligibility. The DOE included the ranger cabin, amphitheater, campground, campground access road, day use area, two parking areas, and two comfort stations constructed, established, or formalized between 1941 and the 1980s (Architectural Research Group 2020).

The California SHPO concurred on September 9, 2020 that the comfort stations and campground area were ineligible for the National Register (NPS\_2020\_0821\_002). The SHPO had previously concurred (April 18, 2019) that the Mission 66 comfort stations themselves were ineligible for individual listing on the National Register (UAID NPS\_2019\_0304\_001).

As evaluated herein, proposed actions associated with the proposed action/preferred alternative would have *no adverse effect* on resources listed or eligible for listing in the National Register of Historic Places or on other historic or cultural resources in the park. The SHPO concurred with this determination of effect on August 20, 2021.

Proposed actions have been designed to avoid known archeological resources. There would be no effect on known archeological resources.

### U.S. Fish and Wildlife Service / National Marine Fisheries Service

In accordance with the Endangered Species Act, the NPS contacted the USFWS database to confirm what federally listed species and habitat occurs in the park. The most recent downloaded list of species occurred on May 7, 2021. Six species were identified, for four there are no records of their occurrence. The whitebark pine also does not occur in the project area. The two species that may occur within the

monument in the project area are the Yosemite toad and the Pacific fisher. Based on analysis in the EA (p. 52-55), actions undertaken to construct the wastewater treatment system may affect, but would be unlikely to adversely affect these species. The USFWS concurred with these determinations of effect on August 10, 2021 (2021-I-0494).

## **6. Finding of No Significant Impact**

As described in the EA, the selected alternative has the potential for adverse impacts on soils, water resources (hydrology, groundwater, water quality and quantity and floodplains), vegetation, wildlife, special status wildlife, cultural resources (archeology and historic structures), and visitor experience; however, no potential for significant adverse impacts was identified.

Although there will be excavation and replacement of native soils, these actions will affect non-unique areas already developed or surrounded by development in the monument. Except for the new leachfields, most additional impacts to soils will occur in areas previously affected by monument development.

Impacts to water resources will be substantially the same as current impacts, with slightly more impervious surfacing. Although the number of fixtures in the day use comfort station may increase to accommodate shuttle demand pulse use, water use would be similar because of new low flow fixtures.

Upon completion of the project, the permanent floodplain alteration will be substantially the same as the current alteration of the floodplains. The number and type of buildings in the floodplain will not change. A Floodplain Statement of Findings is attached to this document.

Construction of the leachfield will affect lodgepole pine and red fir trees, including removing some larger trees killed by recent beetle and drought conditions, but will otherwise be threaded through the existing forested area above the developed area. The proposed project is not likely to adversely affect endangered or threatened species (Yosemite toad or Pacific fisher) or their critical habitat. The USFWS has concurred with this determination of effect.

All work proposed in the selected alternative has been analyzed under National Historic Preservation Act regulations. The selected alternative will not adversely affect any historic districts, sites, highways, structures, or objects listed or eligible for listing in the National Register of Historic Places, including the historic Ranger Station. Consultation with the California SHPO has been completed. The SHPO concurred that no adverse effects on historic properties will occur under the selected alternative.

Without the replacement of the leachfield, park administrative and visitor use facilities would be unsafe for visitors and employees, resulting in potential adverse effects on public health and safety. The proposed action will allow continued safe use of area visitor and administrative facilities.

As demonstrated by the analysis in the environmental assessment, the selected alternative is compliant with federal, state, and local environmental protection laws.

## **7. Conclusion**

On the basis of the information contained in the EA as summarized above, the NPS has determined that implementing the selected alternative is not a major federal action nor is it an action without precedent or similar to an action that normally requires an Environmental Impact Statement (EIS). The conclusions of non-significance are supported by the conservation planning and environmental impact analysis completed and the capability of listed mitigation measures to reduce or eliminate impacts. No adverse effects to cultural or historical resources will occur; and there are no unacceptable impacts to park resources. This determination also included due consideration of the minor nature of agency and public comments. Therefore, in compliance with the National Environmental Policy Act, an EIS will not be prepared, and the project may be implemented immediately.



## Appendix A

### Errata (text changes to the EA)

#### Devils Postpile National Monument

#### Replace Wastewater Treatment System Environmental Assessment

#### Errata

- ❖ Insert the following on page 28 of the pdf document under the heading “*List of Alternatives and Actions Considered but Eliminated from Detailed Study*” following the first bullet.

“This alternative was considered during the preliminary alternatives discussion but was missed in the *List of Alternatives and Actions Considered but Eliminated from Detailed Study*).

- Construct an Engineered Bed Drainfield

This alternative was dismissed primarily because it would have many more resource impacts than the other alternatives considered and be cost-prohibitive under the current project scenario. This option would have required importing an extensive amount of engineered fill material that would cover over a suitable area and which could result in the desired percolation rate. Although such an engineered leachfield could be constructed, there is no suitable area in the monument to construct it without removing a large area of trees and grading it to accept the fill.”

- ❖ Change 16,000 to 18,000-38,000 in the first sentence of the first paragraph on page 16 of the pdf document to conform to other instances of this figure and to allow for a larger area to be used to avoid removing larger diameter trees.
- ❖ Insert the following sentence on page 16 of the pdf document following the first sentence in the second paragraph.

“Recently, several trees > 8 inches dbh have been killed or weakened by mountain pine beetle (*Dendroctonus ponderosae*) and drought conditions. These trees may also be removed to ensure safety of equipment operators during the installation of the infiltrator lines.”

- ❖ Insert the following sentence on page 43 after the second sentence in the second paragraph under “Impacts from Alternative 2.”

“Depending on the distribution of the leachfield legs and the ability to thread the infiltrator lines through the forest, avoiding the largest diameter trees may require increasing the size of the leachfield.”

## Appendix B

### Response to Public Comments

#### Devils Postpile National Monument Replace Wastewater Treatment System Environmental Assessment

#### Public Comment Summary

During the public comment period on the Replace Wastewater Treatment System Environmental Assessment, which was open from June 7, 2021 through July 7, 2021, three comment letters were received, all via PEPC, fully or generally supporting the proposed project.

Nearly all concerns were about issues addressed in the EA, including about the capacity and sustainability of proposed improvements associated with increasing visitation, and whether the park had considered converting existing flush toilets to vault toilets. One commenter was concerned about impacts from excavation. Another comment (outside the scope of the current EA) questioned the relationship of the current project to carrying capacity for the park (none).

One commenter, however, was concerned about what would happen if the percolation tests fail. The EA considered but dismissed two preliminary alternatives that address this question. The following explanation provides further detail about these dismissed alternatives.

*Concern Statement:* What will happen if the percolation tests fail to find a suitable area for the proposed leachfield?

*Response:* Although it is unlikely that the percolation and pit test would fail because according to the engineer, the proposed area for the leachfield is substantially the same as the area now used for the Rainbow Falls leachfield, it is possible that there could be a hardpan or some subsurface impediment to allowing for the needed percolation rate in the proposed leachfield. If that occurred, the monument would have several options, at least two of which could alter the ability of the monument to provide flush toilets for its staff and/or visitors.

One option would be to construct an engineered bed drainfield, which was considered during the preliminary alternatives discussion (but which was missed in the *List of Alternatives and Actions Considered but Eliminated from Detailed Study*). This alternative was dismissed primarily because it would have many more resource impacts than the other alternatives considered and be cost-prohibitive under the current project scenario. This option would have required importing an extensive amount of engineered fill material that would cover over a suitable area and which could result in the desired percolation rate. Although such an engineered leachfield could be constructed, there is no suitable area in the monument to construct it without removing a large area of trees and grading it to accept the fill.

Another option would be to construct a smaller drainfield that would serve only staff or only visitors. This alternative (bullet 2 in the EA in *List of Alternatives and Actions Considered but Eliminated from Detailed Study*) was formally considered but dismissed.

Still another option would be to consult again with the USFS about areas outside the monument's boundary, where another drainfield could be constructed. This alternative and several variations (see bullets 4, 5, and 6 in the *List of Alternatives and Actions Considered but Eliminated from Detailed Study*) was also considered but dismissed in the EA.

### Determination of Non-Impairment

#### Devils Postpile National Monument

#### Replace Wastewater Treatment System Environmental Assessment

#### DETERMINATION OF NON-IMPAIRMENT

##### *Introduction*

National Park Service (NPS) *Management Policies 2006* (section 1.4) requires analysis of potential effects to determine whether the selected alternative would impair a park's resources and values. The fundamental purpose of the national park system, established by the *Organic Act* and reaffirmed by the *General Authorities Act*, as amended, begins with a mandate to conserve park resources and values. NPS managers must always seek ways to avoid, or to minimize to the greatest degree practicable, adverse impacts on park resources and values. However, the laws do give the NPS the management discretion to allow impacts on park resources and values when necessary and appropriate to fulfill the purposes of the park. That discretion is limited by the statutory requirement that the NPS must leave resources and values unimpaired unless a law directly and specifically provides otherwise.

The prohibited impairment is an impact that, in the professional judgment of the responsible NPS manager, would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values (NPS *Management Policies 2006*). Whether an impact meets this definition depends on the resources that would be affected; the severity, duration, and timing of the impact; the direct and indirect effects of the impact; and the cumulative effects of the impact in question and other impacts.

An impact on any park resource or value may, 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 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. Impairment may result from visitor activities; NPS administrative activities; or activities undertaken by concessioners, contractors, and others operating in the park. Impairment may also result from sources or activities outside the park. The description of the parks' purpose and significance is found below and is subject to the no-impairment standard.

### ***Description of Park Purpose and Significance***

#### ***Purpose of Devils Postpile National Monument***

Devils Postpile National Monument preserves and protects the glacially exposed columns of the Devils Postpile, the scenic Rainbow Falls, and the wilderness landscape of the upper Middle Fork San Joaquin River in the Sierra Nevada for scientific value, public interest, and inspiration.

#### ***Significance of Devils Postpile National Monument***

The following significance statements have been identified for Devils Postpile National Monument. (The sequence of the statements does not reflect the level of significance.)

- Devils Postpile is one of the world's finest examples of columnar jointing, displaying volcanic rock columns polished by glaciers and revealing a mosaic of polygons on its dome-shaped top.
- Devils Postpile National Monument is nested in one of the largest contiguous designated wilderness areas in the lower 48 states that includes three national forests and three national parks in the Sierra Nevada.
- For a small area, Devils Postpile National Monument supports and maintains unusually rich ecological diversity reflective of its location at the intersection of three biogeographic regions. The physical setting and context create exceptional opportunities for scientific study and shared learning.
- Devils Postpile National Monument provides a traditional national park experience in a rustic setting that promotes learning and intimate, time-honored visitor experiences that include enjoying the sights and sounds of nature.
- The establishment of Devils Postpile National Monument provides compelling insight into the history and evolution of national parks and national forests, beginning in the early years of the public lands conservation and preservation movement.

#### ***Impairment Determinations for the Selected Alternative***

Impairment determinations are not necessary for visitor experience, socioeconomics, public health and safety, environmental justice, land use, and park operations, etc., because impairment findings relate back to park resources and values. These impact topics are not generally considered to be park resources or values according to the *Organic Act*, and cannot be impaired the same way that an action can impair park resources and values. After dismissing the above topics, topics remaining to be evaluated for impairment include geology, soils, water resources, vegetation, fish and wildlife, special status species, and archeological resources.

#### ***Soils Description***

Soils in the monument are of volcanic and granitic origin and cover slopes ranging from 0-75 percent. Part of the monument is covered in loose pumice deposits, which are easily eroded by wind and water and are often bare or have limited vegetation, while other areas are comprised of rock outcrops. The monument Natural Resources Condition Assessment (NRCA) confirms this, noting that soils in the park are thin and have high concentrations of volcanic ash and pumice, leaving many areas mostly barren with some litter (Mutch et al., 2008a in Kuhn and Whitaker 2014). The formation of soils is slow because of sparse vegetation, insufficient moisture, and steep slopes (Kuhn and Whitaker 2014).

According to the NRCA (Kuhn and Whitaker 2014):

“Due to the relatively recent glaciations, Sierra Nevada soils are generally poorly developed, rocky, and generally low in fertility, the exceptions being deep soils in some basins and canyon bottoms where soils can be quite deep. Soil depth generally decreases with increasing elevation and is thinnest in areas where past heavy glaciations were most persistent. The soils in river basins of the Sierra Nevada have a high proportion of glacial tills left behind in lateral or recessional moraines. Glacial tills are usually composed of granite from high elevations (Mutch et al., 2008a *in* Kuhn and Whitaker 2014:8) though in some areas, metamorphic and volcanic rocks can make significant contributions. Unlike most of the Sierra Nevada, the river and stream valleys within DEPO have glacial deposits that contain a greater diversity of rock type; an abundance of volcanic, metamorphic, and granitic bedrock occur within the watershed (Huber & Eckhardt, 2001 *in* Kuhn and Whitaker 2014:8).”

Comparatively little analysis of soils has been completed in the monument. There is a parkwide map of soils and soil complexes done at a coarse scale (NPS 2012). Five soil types (four soils) are mapped.

- 104: Xeric Vitricryands-Typic Cryorthents, tephritic complex, 0-45 percent slopes
- 117: Typic Cryorthents-Rock Outcrop-Lithic Cryorthents complex, tephritic, 0-30 percent slopes
- 148iw: Stecum-Salt Chuck families complex, 30-75 percent slopes
- 164: Vitrandic Xerochrepts-Rock outcrop complex, 30-60 percent slopes
- 164iw: Vitrandic Xerochrepts-Rock outcrop complex, 30-60 percent slopes

The campground/day use area and administration areas are mapped as Vitrandic Cryorcepts/Rock Outcrop Complex 30-60 percent slopes. Earlier (2015) percolation testing by the USFS in the Rainbow Falls Trailhead area found soils capable of allowing for leachfield construction and in the absence of percolation testing in the proposed leachfield area, as well as conformance to Madera County and state guidelines, has been the basis for the preliminary design.

### ***Soils Impacts***

#### ***Construction of Septic Tanks and Leachfields***

Direct effects on soils from modifications to area facilities, as well as construction of new facilities, such as installing three new septic tanks, a wastewater holding tank, and constructing new leachfields, will include soil removal, profile mixing, and compaction from excavation and grading. During grading and excavation, soils will be mixed, moved, backfilled with native material and/or imported fill, and then compacted. Disturbance of soils will cause long-term localized changes in soil profiles, including decreased soil productivity, especially where surfaces are hardened or compacted. Actions will also cause vegetation loss – temporary (for utility lines and septic system lines) – and long-term where new permanent aboveground facilities are constructed.

Testing the leachfield for percolation rates will have short-term adverse effects on areas that will later be used for the primary and secondary leachfields over the long-term. Similarly, excavation to locate existing utilities will facilitate linking existing utilities to the new facilities but will primarily affect areas that have undergone previous excavation.

Construction of the new leachfield will have limited long-term adverse effects on soils in a previously undisturbed area from loss of vegetation and excavation in two areas, each affecting approximately 6,000 square feet, within a larger disturbance footprint of about 18,000 square feet (an area of approximately 110 feet by 145 feet for each leachfield). This larger area will allow for aligning the leachfield infiltrator lines to avoid the largest trees, and result in an irregularly shaped area of disturbance. Replacement of native soils over infiltrator lines and the addition of approximately 370 cubic yards of fill (clean silica sand) needed to create the disposal area (20 legs in each of two

leachfields, 5-feet wide by 100-feet long) will also disrupt the area soil profile. Introducing wastewater will also add contaminants and will increase opportunities for those contaminants to spread beyond the leachfield if overuse or future failure occurred.

Constructing two new septic tanks for the day use and campground comfort stations and a wastewater holding tank in the vicinity of the sewage lift station will affect an area of approximately 528 square feet (44 x 12 x 10 feet) at each location. There will also be a section of new sewer force main from the sewage lift station up to the leachfield areas following the road alignment up to the north end of the secondary leachfield and then running east from the secondary leachfield to the primary leachfield. The sewer force main will be installed in a trench with a width of 2-feet and depth of 30-36 inches. Within the roadway, the sewer force main will extend 550 linear feet before it veers approximately 225 linear feet to the east away from the road to the primary leachfield. Other sewer line will be installed within the leachfield and will connect the septic tanks.

Covering and compacting soil over the septic tanks and leachfield will result in small effects in permeability, which could affect soil moisture, and water storage capability in the vicinity of the tank installation. If exposed soils were not regraded and/or replanted, this could cause localized changes in subsurface water movement and increase runoff and soil erosion.

#### *Comfort Station Replacement*

Replacement of the two existing comfort stations (campground and day use) will result in continued permanent soil modifications and vegetation loss at the building sites and where surfaces are hardened to accommodate other visitor infrastructure, such as pathways. While the campground comfort station will be replaced in the same location as the current building, resulting in excavation of up to 800 square feet (an estimated 26 x 30 x 2-3 feet, depending on the manufacturer) in the same place, the day use comfort station will be relocated and the existing day use comfort station area used for parking. Although the new location is also previously disturbed, the subsurface has not been disturbed to the same degree as the site of the existing building. It will have similar excavation and disturbance (800-900 square feet). There is little surface vegetation and it is unlikely that tree removal will be needed in the new location.

Because of the new comfort station location, extensions of these utilities from their existing locations will require a trench 2-feet wide by 18 inches deep for water lines. The sewer line trench will be approximately 2-feet wide and 30-36-inches deep and could also contain the electrical conduit. Where possible, these lines will be in existing disturbed areas, such as in parking areas, or along roads or trails. Overall, future impacts will be similar to existing impacts. The current site containing two buildings (comfort station and accessible unit) will be rehabilitated and the new site will be developed with one building that includes accessible components.

In areas without surface hardening, such as areas adjacent to paved or gravel pathways, impacts could include prolonged or repeated trampling where visitors did not follow these pathways. This will gradually decrease vegetation cover and expose bare ground to the direct erosive impact of rainfall and snowmelt. Depending on the extent, increases in erosion may expose plant root systems and lead to decreased vigor or death in plants. These impacts will be expected to occur locally in the vicinity of buildings and associated components, and adjacent to established walkways and on other pathways that may develop in the vicinity.



Because of planned scarifying and revegetation during restoration, soils remaining uncovered due to the new development will not be expected to remain compacted. Therefore, some impacts to soils and vegetation will be temporary. Other areas, including the new restroom, vault toilets, and walkways (approximately 300 x 3 feet) will be impermeable because they will be compacted and surfaced. Approximately 1,500 square feet of impermeable area is already present with the two Mission 66 comfort stations (16 x 25 feet each), and accessible comfort stations (20 x 17 feet) and their associated walkways. Altogether there will be an additional approximately 1,000 – 2,000 square feet of new impermeable surfacing compared to the current footprint. In this project, because of the relocation of the day use comfort station, there will be the potential for restoration of some riverfront parking to reduce the current area of compacted soils in that area.

#### *Peak Use Vault Toilet*

Construction of a new vault toilet facility (2-4 unisex toilets) in the campground will cover approximately 180-360 square feet, depending on the manufacturer). There will be approximately 200-400 square feet of disturbance for site preparation and landscaping, including hard surfacing to provide accessible pathways from the campground. Most of this disturbance will be within the footprint of an existing campsite so very little new surface disturbance will be required. Excavation for the vaults and footings will be approximately 15 x 17 x 5 feet (1,275 cubic feet).

#### Soils Conclusion

The range of localized adverse effects on soils caused by the relocation of the wastewater treatment system and small changes in building infrastructure will not result in impairment of soils resources.

#### ***Water Resources Description***

Devils Postpile, along with other Sierra Nevada national parks, “protects some of the least altered aquatic systems in the Sierra Nevada (with some notable exceptions), but” is “still subject to many of the same impacts affecting aquatic resources throughout the region. These include dams and diversions, altered fire regimes, atmospheric deposition of pollutants, changing climate, introduction of nonnative plant and animal species, and local anthropogenic disturbances (Kuhn and Whitaker 2014: 11).

*Surface Water Hydrology:* The Middle Fork San Joaquin River flows from north to south, with a short detour into the Inyo National Forest and back, before it reaches the southern part of the monument where it flows over Rainbow Falls and continues downriver to the confluence of Kings Creek and the north and south forks of the San Joaquin River. In the northern portion of the monument, it meanders through meadows, then begins to descend more rapidly, with scattered pools, rapids, cascades, and waterfalls. The San Joaquin River is an important part of California’s water supply system.

Since 2009, there has been a stream gage within the park, just upstream of the campground, however its record is relatively short and flooding data specific to the park is therefore sparse. However, San Joaquin River flow monitoring is a high-priority long term project and is coordinated with the park, Sierra Nevada Inventory and Monitoring network, and the U.S. Geological Survey (USGS). The closest longer-term gage was on the North Fork of the San Joaquin River, approximately seven miles west of the monument. Although no longer functional, it has a record of approximately 25 years. It also was at a similar elevation and drained a similarly sized watershed to that of the Middle Fork.

Within the park, there are expansive complexes of springs that form creeks and associated shallow groundwater aquifers which are responsible for creating extensive wet meadows and wetlands (7.5 percent of the monument). Riverbank condition within the monument boundary is generally stable since

much of the riverbed and bank is hardened bedrock or boulders. A small number of high-visitation areas along the riverbank, however, exhibit substantial vegetation disturbance and soil erosion. Fencing limits resource degradation from trampling in several of these high-visitation high-impact areas, while river access is maintained in reaches with hardened or resistant substrate. The monument has also developed indicators and standards to monitor and mitigate effects of social trailing in sensitive areas near the river.

There is a small drainage gully within the proposed project area for the leachfields that is present as a result of stormwater runoff from the road (Photo 2). It flows only when there is substantial precipitation.

*Floodplains:* Most of the monument's infrastructure is located near the Middle Fork San Joaquin River. The ranger station, day use comfort station, campground, and other visitor facilities, such as some parking, are within the 100-year floodplain (NPS Water Resources Division 2011).

The boundary of the park stretches over approximately 2.5 miles of the river. Most of that area is wilderness and is characterized by steep cliffs, and a narrow bedrock gorge. The housing and maintenance area are located at the farthest margins on the left bank floodplain terrace. The river in this area flows through a low-gradient meadow and contains classic wide meander bends. The campground, day use area, and the Visitor Contact/Ranger Station are located closer to the river. A side channel near the campground drops into the picnic area and then the meadow. Bedrock constrictions upstream and downstream confine the river flow within the portion of the monument that is wide and flat.

Evaluation of the stream gage record on the North Fork of the San Joaquin River for a 2011 NPS Water Resources Division report found that floods were documented in winter, summer, and spring. As a proxy model for the park watershed, it suggests that floods could occur any time of year, including when the campground is open/occupied. Because there are numerous structures that could be affected by flooding, the EA included an attached Floodplains Statement of Findings (FSOF) that documents not only actions in the EA, but also actions that were not described in a GMP FSOF. Although this FSOF was required for actions in the GMP (NPS 2015), completion was delayed. As a result, this EA FSOF also includes the GMP actions.

*Groundwater Hydrology:* The Upper Middle Fork San Joaquin River is located close to the campground and administrative areas and the area is under snow cover much of the year, therefore groundwater is relatively close to the surface (an estimated 10-100 feet) in many areas. In the campground, which is closer to the river, groundwater is anticipated to be closest to the surface. Proposed percolation testing and test wells will be used to determine the actual proximity of groundwater to the leachfields. Per Madera County Local Area Management Plan (LAMP) requirements, these must and will retain the required separation distance.

*Water Quality:* Water quality in the Upper Middle Fork of the San Joaquin is considered excellent (Kuhn and Whittaker 2014). Because the headwaters and most areas upstream are in wilderness, there is very limited human development in the upper watershed. Higher than background concentrations of organic nutrients and animal-derived organisms such as fecal coliform, *Enterococcus coli*, and *Giardia lamblia* have been detected and are attributed to stock use and recreational activities. Water quality in the watershed may also be degraded by wet and dry deposition of wind transported pollutants originating in the Central Valley. Deposition of nitrogen, sulfur, or phosphates can have disproportionately large

impacts on Sierra aquatic ecosystems due to the naturally low concentrations of these substances in Sierra waters. The park has little information on detection of the presence and trends of this transport, due to the high cost of monitoring these trace chemicals in high-elevation streams and lakes (generally not within the park boundary).

*Water Quantity (Use):* The monument uses approximately 4,500 gallons per day of water for park operations. This includes water use for the campground, two comfort stations (flush toilets and handwashing), park housing, maintenance, and administrative operations. No adverse health effects have been reported from use of this water, which is sampled regularly as a public water supply per the Safe Drinking Water Act. The water comes from a deep groundwater well, located uphill from the campground, which pumps approximately 28 gallons per minute, using that 4,500 gallons per day when the comfort stations are open.

*Wetlands:* The monument includes over 40 acres of vegetated wetlands dependent on river-derived surface or groundwater. Dominant vegetation types in these wetlands include herbaceous sedge (*Carex* spp.) and rush (*Juncus* spp.) communities as well as shrubby willow stands (Denn and Shorrock 2009 in NPS 2015). Soda Springs Meadow – a wetland complex supported by the river and visited by most travelers to the monument – contains the greatest diversity of invertebrates per area observed in the Sierra Nevada (Holmquist and Schmidt-Gengenbach 2005 in NPS 2015), however the proposed project area avoids these and other wetlands.

### ***Water Resources Impacts***

#### ***Surface Water Hydrology and Floodplains***

An erosion gully formed by stormwater runoff from the road is located between the proposed area for the two leachfields; a small ephemeral drainage runs south of the proposed project area. Neither will be altered by the proposed construction of the infiltrator lines for the leachfields and stormwater runoff will be managed to reduce continued erosion. Roadway curbing has been channeling stormwater to this area. It is proposed to be modified in a future road project; however, it will continue in the interim unless design modifications could be made within the current project. Access to the project area will be from the roadway on the west and south as it curves around the site. Requirements for installing leachfields ensure that they are at least 50 feet from ephemeral drainages and 100 feet from perennial drainages. This allows enough space to enable filtration through area soils without direct adverse effects on extant water bodies.

A Floodplains Statement of Findings (FSOF) is required, under Executive Order 11988, to document the effects on and mitigation measures for retaining and reconstructing facilities in the floodplain. Relocating the day use comfort station to improve circulation will have a minor contribution to impacts in the 100-year floodplain. The new location of the comfort station will be at a slightly higher elevation, but it will continue to be within the 100-year floodplain. As a result, modifications will be made to the building to allow it to withstand the low-level flooding that is anticipated to occur in the area. Similarly, the vault toilets will be elevated, but will also be within the floodplain.

Replacing the leachfield, septic tanks, and day use and campground comfort stations, and constructing a new vault toilet in the campground will result in a small degree of additional impervious surfacing for building footprints and walkways to and around them (an addition of approximately 200-400 square feet, primarily related to the addition of new vault toilets, rather than the replacement of existing facilities). There will also be small, undetectable effects on runoff, subsurface compaction, and other

effects from replacing these facilities in their existing (campground comfort station) or a new (day use comfort station) location.

#### *Groundwater Hydrology*

Where high groundwater levels occur, water will be displaced from the physical locations of the septic tanks, however the proposed locations of the septic tanks are not within known or expected areas of high groundwater levels, therefore these impacts are not anticipated to affect groundwater hydrology.

#### *Water Use*

Overall water use will either be reduced or remain the same with the replacement of the comfort stations. Current water use for toilets is approximately 6-8 gallons of water per flush. New water conservation fixtures could reduce this by up to 75 percent per flush. If possible, this decrease in water use per flush/faucet may allow additional fixtures to be provided, particularly in the day use comfort station, which is often overcrowded from pulse use because of shuttle arrivals and departures. Similarly, conversion to newer facilities may reduce electrical costs, including for pumping water from the well, a long-term beneficial effect. This will result in potential reduction of the water typically used (4,000-7,000 gallons per day) when both buildings are in use. Conversely, the proposed project could allow more fixtures because each will use less water. In that case, water usage will remain the same.

#### *Water Quality*

Reconstructing the campground comfort station in its current location and relocating the day use comfort station to improve circulation will have a small degree of effects, with slightly more ground disturbance causing potential changes in runoff due to the relocation of the day use comfort station and designating its current location as parking. These impacts will be reduced by the implementation of mitigation measures to rehabilitate the area following disturbance and ecological restoration of more sensitive areas currently used for parking near the river. Changes will reduce the potential for pollutants to move into the river during precipitation events, since the day use comfort station will be slightly elevated and approximately the same distance from the river, currently compacted areas used for parking will be decompacted and revegetated, and surface grading will redirect runoff.

#### Water Resources Conclusion

The range of small localized adverse effects on water resources will not result in impairment of water resources, including wetlands (3.61 acres).

#### ***Vegetation Description***

The monument lies within the California Floristic Province, which encompasses most of the state of California west of the drier Great Basin and desert regions. Conservation International has identified the province as a global biodiversity hotspot due to its high rates of endemism and the relatively threatened state of remaining habitats. The monument also lies within the Sierra Nevada ecoregion, as defined by the *Jepson Manual for Higher Plants of California* (Hickman 1993).

The monument's diverse topography and geology support several different plant communities. Species characteristic of both the wetter western and drier eastern slopes are present due, in part, to its proximity to the lowest pass in the Sierra Nevada.

Mixed conifer forest covers approximately 70 percent of the monument, composed primarily of red fir (*Abies magnifica*), white fir (*Abies concolor*), and lodgepole pine (*Pinus contorta* spp. *murrayana*). Jeffrey pine (*Pinus jeffreyi*) is moderately widespread in patches at lower elevations, while on higher north-

facing slopes scattered mountain hemlock (*Tsuga mertensiana*) and western white pine (*Pinus monticola*) occur. Western juniper (*Juniperus occidentalis*) is present but uncommon, restricted to rocky, warm dry sites protected from fire (Keeler-Wolf et al. 2012).

The structure and composition of the coniferous forests in the monument have been strongly influenced by two major disturbance events in the past 25 years. These are the August 1992 Rainbow Fire, which burned approximately 84 percent of the monument, including many areas with high intensity and severity (Caprio et al. 2006; Caprio and Webster 2006), and the 2011 extreme wind event (Devils Windstorm) and forest blowdown (NPS 2017b) where, in some places, up to 80 percent of the trees fell. In the Rainbow Fire, about 25 percent of the monument burned with high severity. In these patches, lack of seed sources is restricting the regeneration of young trees.

The dominant mixed conifer forest gives way to a riparian zone along the Middle Fork of the San Joaquin River, and in other places to small meadows, seeps, and sag ponds, while shrublands dominate the southern end of the monument. Wetlands and riparian areas, many of which are scrub/shrub wetlands, comprise 7.5 percent of the monument, largely because of the influence of the San Joaquin River. The monument's wet meadows support very high biodiversity.

Broadleaved trees, including mountain alder (*Alnus incana*), black cottonwood (*Populus trichocarpa* ssp. *balsamifera*), and quaking aspen (*Populus tremuloides*), form approximately three percent of the monument while shrub-dominated ecosystems with whitethorn ceanothus (*Ceanothus cordulatus*), huckleberry oak (*Quercus vaccinifolia*), and manzanita (*Arctostaphylos* spp.) cover 17.5 percent.

Based on vascular plant inventories (Arnett and Haultain 2005; Arnett et al. 2014; Alphonso 2016; and Buhler 2018 in NPS 2018), there are approximately 390 vascular plant and 40 non-vascular plant species in the monument.

Vegetation in the proposed project area consists of mixed conifer forest dominated by lodgepole pine with sparse ground covering of low growing shrubs, forbs, and grasses.

**Non-native Plant Species:** Sixteen nonnative species are known to occur in the monument, of which three—bull thistle, woolly mullein, and cheatgrass—are considered invasive. None of these are in the proposed project area. The other nonnative species are not invasive at the monument. Within the project area, small populations or individuals of the following nonnative species have been observed and removed: pepperweed (*Lepidium virginicum*), red sandspurry (*Spergularia rubra*), and knot or pigweed (*Polygonum aviculare*). Based on treatment history over the past 15 years, annual assessments show a reduction in the spatial distribution and size of invasive and nonnative plant populations (Buhler 2018).

**Sensitive Plant Species:** Three sensitive plants listed by the California Native Plant Society, including Bolander's woodreed (*Cinna bolanderi*), short-leaved hulsea (*Hulsea brevifolia*) and cutleaf monkeyflower (*Mimulus laciniatus*) occur in the monument. Although short-leaved hulsea occurs adjacent to the project area, it will not be affected by the proposed project.

## **Vegetation Impacts**

### **Septic Tanks**

The three areas where the septic tanks will be installed are in currently developed parking areas or roadways. One 12,000-gallon tank will be buried near each comfort station (in parking areas), and one 2,000-gallon tank will be buried in place of a manhole in the administrative area, behind the

superintendent's office. Because they will be in existing parking areas or along a roadway, these septic tanks will have no impact on native vegetation habitats.

#### *Leachfield*

Vegetation in the proposed project area for the leachfield consists of mixed conifer forest with sparse ground covering of low growing shrubs, forbs, and grasses. Installing two leachfields in adjacent areas, each comprising about 18,000 square feet (0.42 acres each or 0.84 acres total) will affect this mixed conifer forest, primarily comprised of lodgepole pine and red fir. Although infiltrator lines will be designed in the field to avoid trees larger than 8-inches in diameter, installation will result in the loss of approximately 25 red fir and lodgepole pine trees 0.5-8 inches dbh. The largest trees in the leachfield are lodgepole pines and proposed methods to reduce impacts or damage to roots will reduce the potential for mortality from the installation. Because very few nonnative plants occur in the proposed project area and none of them are invasive, new disturbance as well as imported fill and staging areas have the potential to facilitate establishment of new plants/populations, a long-term adverse effect, however use of mitigation measures will prevent this.

#### *Comfort Stations*

*Day Use Comfort Station:* Replacement/expansion of the current day use comfort station (520 square feet plus a separate accessible 375 square foot building) will require construction of a new building, including excavation for its foundation and footings (approximately 800 square feet, depending on the manufacturer and configuration), along with similar associated site preparation, walkways, and landscaping. These excavations will impact a sparsely vegetated area dominated by lodgepole pine, with very little understory vegetation due to parking and high levels of visitor use in the area.

The new day use comfort station will be connected to existing utilities, including power and water. Because of its new location, extensions of these utilities from their existing locations will require trenches 2-feet wide by 18-inches deep for the water line. The sewer line trench can include electrical conduit and will be approximately 2-feet wide by 30-36-inches deep. Because the day use comfort station septic tank will be farther away, there will be more trenching. Approximately 100 feet of trenching will be required. Where possible, these lines will follow existing trails and roads or areas of previous impact.

*Campground Comfort Station:* There will also be a smaller range of impacts from replacing the campground comfort station in its current location. These will include excavation for the foundation and footings for the new building, connections to existing utilities (electric power, water, and sewer lines). Since the comfort station will be replaced in its current location and will be similar in size (800 vs. 895 square feet) and utility connections will be closer, there will be a small degree of additional ground disturbance.

#### *Peak Use Vault Toilet*

Construction of a new vault toilet facility (2-4 unisex toilets) in the campground will have the same amount of disturbance for site preparation and landscaping as the existing vault toilets, including hard surfacing to provide accessible pathways. The vault toilet will be located within a disturbed area adjacent to an existing campsite, so minimal vegetation will be affected.

#### Vegetation Conclusion

The range of localized adverse effects on soils and vegetation will not result in impairment.



### **Wildlife Description**

Habitats at the monument support a variety of animal communities. These are enhanced by the close proximity of relatively low mountain passes—Mammoth Pass and Minaret Vista—that provide migration corridors between surrounding habitats. Approximately 170 vertebrate species are confirmed or expected to occur within the monument. These include 40 mammal species (including bats), 118 bird species, seven reptiles, two amphibians, and four fish (nonnative) (NPS 2017b).

Invertebrate inventories in the monument are approximately 15 percent complete. Thus far, surveys have recorded 94 taxa from the river (Schroeter and Harrington 1995 *in* NPS 2018), 29 taxa from flooded portions of meadows, and 77 terrestrial taxa from drier meadows (Holmquist and Schmidt-Gengenbach 2005 *in* NPS 2015).

Ten bat species, including three considered rare, were documented in 2001-2004 (Pierson and Rainey 2009 *in* NPS 2015). Another three species are likely but were not positively identified during the inventory. The most important regional threat to bats is habitat loss, but drought effects on emergent aquatic insect prey populations may also affect bats (NPS 2017b).

Approximately 118 bird species have been detected in several surveys (Heath 2007; Siegel and Wilkerson 2004; Steel et al. 2012a, 2012b *in* NPS 2018). Twenty bird species documented in or near the monument are listed on one or more sensitive species lists. Since 2011, species richness and density over time has been measured by the Sierra Nevada Network bird monitoring project. This and other surveys suggest species richness is well within the range of what is expected for the habitat types and size of the monument (NPS 2017b).

Short-term bird monitoring (2002–2006) showed some species in decline and others increasing, with overall bird densities increasing over this same time frame (Heath 2007 *in* NPS 2018; Kuhn and Whitaker 2014). Regional Breeding Bird Surveys show more species declining. Seventeen declining species occur in the monument (Kuhn and Whitaker 2014).

### **Wildlife Impacts**

New impacts to fish and wildlife species and habitat will primarily be from leachfield construction. Existing low-level impacts, such as periodic noise and disturbance from operation of mechanized equipment during maintenance as well as from routine human disturbance associated with visitor use will also continue.

Crepuscular and nocturnal species will continue to experience some adverse effects from seasonal 24-hour human occupation of the site. Overnight camping could resume pending replacement of the wastewater treatment system. Because of overnight camping and picnicking, wildlife may continue to have access to some human food sources and could be subject to habituation. Most large and medium-sized mammals, however, will continue to avoid the area during the peak visitor use season. Species that will continue to be present could also be detected in the mornings, evenings, and/or at night by the presence of tracks or other evidence. Within the campground and adjacent to road corridors, wildlife species, such as birds, deer, black bears, and chipmunks, are likely habituated to human activity from decades of seasonal use, vehicles, and noise. Overall, the project area is somewhat noisy, especially during the visitor use season. Nonetheless, deer, small mammals, and numerous birds are routinely present.



Routine and recurring maintenance on the entrance and campground roads, such as grading, filling, ditch clearing, culvert cleaning, and other activities will continue and could cause periodic noise and human activity that will have short-term localized impacts on wildlife presence, disrupting animal movement, and temporarily displacing species from areas of activity. Due to the low level of traffic and low speeds, vehicle-wildlife collisions are uncommon.

Roads and developed areas could also continue to impede water and wildlife movement. Runoff could pick up pollutants and carry these toward the Upper Middle Fork San Joaquin River, potentially causing localized effects on water quality and aquatic species.

*Leachfield Construction:* There will be both temporary impacts (from noise and disturbance) and permanent impacts (from impacts to approximately 0.73 acres of mixed conifer forest) from construction of the leachfields. Long-term adverse effects (including tree and other surficial vegetation removal) will affect a smaller area of approximately 0.28 acres within this larger disturbance area, but will also affect the larger area. Temporary impacts to wildlife habitat will also occur from connecting the new leachfields to the existing comfort stations and new septic tanks. Although utility line installation will cause excavation impacts, over time these excavation areas could be revegetated following disturbance.

Permanent modifications at the site, including loss of wildlife habitat from tree removal and excavation, will adversely affect wildlife habitat, but will occur in an area currently affected by noise and disturbance from the roadway which curves around the site. In addition, the removal of small diameter trees will have very little impact on overall forest structure. Eventually, vegetation will return to the area and could remain, where it does not affect the functioning of the leachfield. Construction of the leachfields will result in temporary effects above ambient noise and disturbance, increasing effects on wildlife in the vicinity.

Construction-related noise will be temporary (lasting up to five months (June- October) during construction of the septic tanks, wastewater holding tank, and leachfields), and existing soundscape conditions, primarily from the roadway, will resume following construction activities. Because some of the proposed construction work will take place during the off-season and/or during campground closure, it may not provide the typical respite from human activity that normally occurs during the winter from cessation of most visitor use in the monument. As a result, some noise and activity could occur during a period that typically is quieter for area wildlife and therefore may have comparatively more effects than work conducted during the peak visitor use season.

With replacement of the day use and campground comfort stations, there will be additional noise and disturbance from demolishing the existing buildings and replacing them with structures with improved water conservation measures and accessibility. Impacts will also occur from connecting utilities and from creating accessible pathways to and walkways around the buildings. While these will be replaced in the same locations, moving the day use comfort station will also have some impacts on a similar area where no building is currently present. Therefore there would be long-term habitat modification as well as noise and disturbance. There could also be rehabilitation of the current day use comfort station location, providing some long-term beneficial effects in a similar area and/or that area could be converted to day use parking and the restoration will then occur from reducing existing riverfront parking. For most wildlife, however, the overall disturbance of this vicinity from visitor use will continue to deter use and will continue to diminish overall habitat quality.

Shoulder season vault toilet construction will better handle peak use periods. This construction will cause additional noise and disturbance and modification of a previously disturbed area for construction.

During site work for the replacement of the buildings, there will also be above-ambient noise and activity. Most noise will be from heavy equipment doing site preparation (excavating, constructing parking, digging foundations, and constructing concrete pads for the buildings) and finish work (interior modifications). As a result, the intermittent occurrence of most mammals will continue to be reduced during the day by this noise and activity. Other wildlife, such as birds, small mammals and insects will continue to occur but will be disturbed by project work and may be less evident. In the evening, at night, and on weekends when work will generally cease, wildlife use will be expected to return to normal in the project areas.

Noise and disturbance impacts in the area will continue until the areas were restored or construction finished. Habitat modification due to vegetation removal will preclude short- and long-term return to the former level of use by some species of wildlife. For instance, perching birds use trees and shrubs for roosting, nesting, and food foraging. Therefore, tree or shrub removal will have long-term localized effects from incremental loss of habitat that may have been used for perching, nesting, or procurement of food for a variety of species.

Depending on where it was located, staging of machinery and construction materials could also result in some impacts to wildlife habitat, causing some vegetation to be removed, trampled, or run over. There will also be loss of, or other adverse effects on, some species such as small mammals, amphibians and insects affected by soil disturbance and removal activities. Some wildlife habitat for these species will be changed or eliminated during construction.

Long-term effects on wildlife will also occur from operation and maintenance of the leachfields, such as from loss of some trees and shrubs.

Despite spill mitigation measures, potential impacts from inadvertent spills of fuel, oil, hydraulic fluid, antifreeze, or other chemicals could also occur. If they occurred, they will be cleaned up as soon as possible and the sites restored to clean conditions.

#### Wildlife Conclusion

The range of small localized adverse effects on water resources will not result in impairment of water resources, including wetlands (3.61 acres).

#### ***Federally Threatened and Endangered Wildlife Description***

Six wildlife species and whitebark pine (*Pinus albicaulis*, proposed threatened) were on the threatened and endangered species list generated from the U.S. Fish and Wildlife Service (USFWS) for the project planning area under the Endangered Species Act (ESA). Whitebark pine does not occur in the project area and is of very limited occurrence in the monument. Four wildlife species [Sierra Nevada yellow-legged frog (*Rana sierrae*) (endangered), Owens tui chub (*Gila bicolor ssp. snyderi*) (endangered), monarch butterfly (*Danaus plexippus*) (candidate)] do not occur in the project area. Analysis for the other two [Yosemite toad (*Anaxyrus canorus*) (threatened) and Pacific fisher (*Pekania pacifica*)] is provided below.

Yosemite Toad (*Anaxyrus canorus*) (Description adapted from CDFW 2013 in NPS 2015)

There is one documented (2013) occurrence in the monument and Reds Meadow Valley of a Yosemite toad in the last 40 years, a species listed as threatened by the USFWS. As a result, the park has been conducting surveys to determine its distribution and presence elsewhere in the monument.

Endemic to the Sierra Nevada, adult Yosemite toads are 1.75 – 2.75 inches from snout to vent and are robust and stocky with dry, uniformly warty skin. Males are pale yellowish green or olive above, with few or no dark blotches while females and young are heavily blotched on a light background. The throat and belly are pale in both sexes and parotid glands are large, flat and oval. They eat insects, such as millipedes, beetles, flies, and ants. Juveniles may also eat tiny plants and detritus.

Typical habitat includes wet mountain meadows, willow thickets and the borders of forests, typically not more than 100 meters (984 feet) from permanent water, at elevations ranging from 4,800- 12,000 feet. Unlike many amphibians, Yosemite toads use nearby terrestrial meadow habitats for foraging, refuge, and movement, and they overwinter underground in mammal burrows, willow thickets, and under boulders and logs. Females may deposit over 1,000 eggs in one location, including in shallow pools and slow-moving meadow streams. Eggs hatch in 10-12 days, with tadpoles metamorphosing in about two months. During their early life, the toads are vulnerable to predation by fish, other frogs, diving beetles and garter snakes.

The Yosemite toad was once one of the most common high-elevation Sierra amphibians. Active for only four to five months per year, it has just a short time in which to reproduce and eat enough to survive the long season of hibernation under the snow. The number of Yosemite toads has now declined precipitously throughout the Sierra Nevada, particularly in Yosemite National Park, where the toad was first discovered and named.

The causes of the decline are unclear. Disease, degradation of habitat by grazing livestock, increased ultraviolet radiation, introduced predatory fishes, a severe 1980s drought, windborne pesticide contamination, and increased predation by common ravens, whose population has increased greatly due to human activities, are all likely contributors to the decline. After entire populations of Yosemite toads disappeared, the Yosemite toad was listed as threatened.

According to the USFWS, Yosemite toads move by walking, rather than hopping and are inactive in cold temperatures and hot, dry weather. They are primarily active during the day and frequent sunny open sites. Emerging from underground soon after snow melt, they are most active above ground for only about four months each year, during the period from April-October (Stebbins 1985 in USFWS [https://www.fws.gov/nevada/protected\\_species/amphibians/species/yosemtie\\_toad.html](https://www.fws.gov/nevada/protected_species/amphibians/species/yosemtie_toad.html) accessed 6-29-20) (sic).

**Pacific fisher (*Pekania pacifica*):** The Pacific fisher is the only other species listed or proposed for listing by the USFWS (West Coast Distinct Population Segment [DPS], USFWS, November 7, 2019) with potential suitable habitat in the monument. Its listing was effective June 15, 2020.

The Pacific fisher was listed on June 15, 2020 as endangered under the ESA. In the southern Sierra Nevada (SSN), fisher populations are affected by the Sierra tree mortality event which is affecting many of the key components of fisher habitat such as complex forest canopy structure and connected closed-canopy forest conditions (USFWS 2019).

Potential denning and foraging habitat are based on 2020 Conservation Biology Institute (CBI) Southern Sierra Nevada Post-Drought Fisher Denning Habitat Suitability and Post-Drought Fisher Landscape-Scale Habitat Suitability models (in Kuhn and Whitaker 2014). Suitable fisher habitat at Devils Postpile National Monument follows the suitability models from CBI mentioned above with the following occupancy thresholds; modeled potential foraging habitat with post-drought habitat suitability model at a probability of 0.27 or greater as suitable foraging habitat represents approximately 200 acres of the monument. No fishers have been documented in the park, and NPS or Inyo National Forest wildlife biologists are unaware of any reported fisher observations from areas surrounding the park.

### ***Federally Threatened and Endangered Wildlife Impacts***

*Impacts on Yosemite Toad:* No impacts are anticipated from proposed actions. Except for leachfield construction, most actions will take place in natural, but previously disturbed non-habitat areas. Leachfield construction will occur in mixed coniferous forest adjacent to the road. One loop of the roadway encloses the area.

A small ephemeral drainage below the proposed leachfield area does not meet habitat requirements for Yosemite toads because it does not retain ponded water and water is only present during snowmelt or periods of heavy precipitation. Nonetheless, the area is within the approximate distance from the San Joaquin River (about 1,000 feet) from where the single Yosemite toad was observed. There will also be no specific impacts to this drainage because it will be avoided during access to the project area.

Elsewhere in the project area, replacement of the campground comfort station will be within the approximate distance that Yosemite toads have been found from perennial water sources (about 1,000 feet), however toads are unlikely to be found near riverine environments such as the San Joaquin River. Instead, they prefer slower-moving waters. Although Yosemite toads could potentially be within this distance from the area of disturbance, given the repeated searches for them over the years throughout the developed area during the snow free season in potential suitable habitat, especially during precipitation events. Because the proposed project areas are also close to or within the existing heavily used campground, roadway, and administrative area, the presence of toads is unlikely. Nonetheless, specific surveys will be conducted for the toads as the area melts out in the spring and continuing into this summer and fall, and monitoring during proposed excavation will also be conducted. If any Yosemite toads or other sensitive amphibians are found, work will be halted and the USFWS consulted.

The upland (non-meadow) and undisturbed areas (e.g. proposed leachfield location) of the project area could provide dispersal or over-wintering habitat for toads. The longest known overland movement by a Yosemite toad is 0.78 miles, recorded on the Sierra National Forest by Liang (2010). In this analysis, potential dispersal/overwintering habitat is assumed to be any upland area within 0.78 miles of an occupied breeding meadow, which also contains rodent burrows or forest litter sufficient to provide protection for toads. No occupied breeding meadows exist within 0.78 miles of the project boundaries.

*Impacts on Pacific Fisher:* The proposed project area is limited to the developed area and may have an indirect effect on fisher by causing short-term noise disturbance. Tree removal for the proposed leachfields will reduce the density of smaller diameter trees on approximately 0.75 acre. Reduction in understory vegetation may also decrease potential foraging habitat quality. Reduction in understory and ladder fuels could increase fisher exposure to predation and decrease habitat quality for prey, while opening up forest stands and introducing more vegetation edges in and between stands may increase access by fisher predators, such as mountain lions, bobcats, and coyotes. The proposed location for the leachfields, however, occupies a very small area and that section of forest has been modified through

regular hazard tree removal to ensure safety in the adjacent administrative areas and road. Therefore, there will be fewer trees and a more limited understory than under existing conditions.

#### Federally Threatened and Endangered Wildlife Conclusion

Although there will be a range of adverse and beneficial effects, there will be no impairment of fish and wildlife from implementation of the road rehabilitation projects.

#### ***Archeological Resources and Historic Structures Description***

Overview: The Area of Potential Effects (APE) is defined as the developed area of the park, including the day use area, campground, and administrative use areas and has been described in correspondence with the California State Historic Preservation Office (SHPO) and area Native American Indian tribes.

The monument encompasses a diverse landscape of natural and cultural features reflecting the varied activities of Native Americans, miners, sheepherders, conservationists, scientists, park managers, local residents, tourists, and others. Erosion, vegetation, wildlife, wildfire, volcanic activity, and harsh winters may have affected much of the evidence of the region's past, yet some prehistoric and historic archeological sites, objects, trails, and places remain. Following the 1992 Rainbow Fire, which burned approximately 84 percent of the monument, the land within it was systematically surveyed.

*Archeological Resources:* Archeological evidence suggests that people have been present in Devils Postpile and surrounding area up to 7,500 years ago. Obsidian found within the monument suggests that the valley was used seasonally by tribes crossing the Sierra Crest west of the present-day Town of Mammoth Lakes and was probably part of a trade route from the Casa Diablo geothermal area, where the obsidian originated (NPS 2017a in NPS 2018).

Early explorers and visitors likely impacted known sites throughout the valley, especially in the vicinity of high public use areas such as campsites, roads and trails. Human effects on natural processes, including on river channel erosion, tree mortality/fall, and fire effects, have also likely affected archeological sites. Road and facility construction likely also resulted in adverse impacts on cultural resources, including archeological and historic resources.

Some historic resources, such as the Postpile cabin (described further in the next section), were adversely affected by weather and neglect and from modifications made prior to understanding their significance.

During the post-Rainbow Fire survey, 12 prehistoric and historic sites, including cabin remains, trash scatters, tree blazes, prehistoric and historic trail routes, gathering and hunting areas, and lithic artifacts, were found. None are in the proposed project area. Two condition assessments (in 2007 and 2013) examined the monument's archeological resources. The 2011 windstorm affected some trees with blazes, while other sites have been affected by illegal campfires, fires from improper cigarette disposal, and improper refuse disposal.

*Historic Structures:* The historic Visitor Contact/Ranger Station and remains of the Postpile Cabin are listed in the National Register of Historic Places. The Ranger Cabin (1941) was constructed with lumber salvaged from the former Sentinel Hotel in Yosemite Valley, replacing a temporary tent shelter that had served as the Visitor Contact/Ranger Station beginning in the mid-1930s. This building is still the primary contact site for visitors. Despite small changes in materials and workmanship, the ranger cabin

maintains its connection to the early period of NPS planning and development at Devils Postpile as its first administrative and oldest extant building.

The Devils Postpile Cabin site is an archeological and historic resource representing early mining history. Also known as Postpile Joe's Cabin, after Joseph Ivanhoe (a one-armed mule packer), the cabin collapsed from heavy snows in 1964, but the original chimney and hearth of the 1870s cabin remain. The Devils Postpile Cabin site was listed in the National Register of Historic Places in 2016 due to its association with events that have made a significant contribution to the broad patterns of history, and because the property has yielded, or is likely to yield, additional important information.

Potential impacts on resources listed or eligible for listing in the National Register of Historic Places (NRHP) were identified and evaluated (Avery 2020). For the proposed project, the campground and day use Mission 66 comfort stations and campground/day use developed area were evaluated for their potential historical significance. Although much information was gained in the search, the facilities were found ineligible for listing on the National Register of Historic Places. The comfort stations were declared individually ineligible by SHPO on April 18, 2019 (Reference # NPS\_2019\_0304\_001) and the SHPO concurred with the ineligibility of the campground/day use area and other portions of the monument's eligibility associated with Mission 66 on September 2, 2020 (Reference # NPS\_2020\_0821\_00):

With the exception of the ranger cabin, built in 1941 and already listed in the National Register of Historic Places (National Register), none of the documented resources of the Developed Area are eligible for the National Register, nor is the Developed Area eligible for the National Register; it does not meet registration requirements or retain integrity to the Mission 66 era or other historic period (California Department of Parks and Recreation Office of Historic Preservation (SHPO) 2020).

### ***Archeological Resources and Historic Structures Impacts***

#### ***Archeological Resources***

There will be no effect on the Devils Postpile Cabin archeological site, or other known archeological resources, or on their eligibility for the National Register.

Surveys for archeological resources in the vicinity of the proposed actions occurred in 1992 following the Rainbow Fire. That survey included the areas where soil percolation testing and utility location excavation is proposed. The survey (Hull and Hale 1993) identified nine prehistoric archeological sites (four were originally documented as loci of one site). Portions of the monument were also surveyed in 2013 following a wind event. None of the archeological sites are within the area that will be affected by this project. There are no known archeological sites that will be affected by proposed actions to relocate the septic system leachfields.

Areas where proposed modifications will be carried out have been surveyed for archeological resources and additional subsurface surveys will be performed, if warranted, prior to taking specific actions. As a result, implementation will be modified to the extent feasible to avoid potential sites. No known archeological sites will be affected by the proposal to relocate the day use comfort station, or to reconstruct the campground comfort station, or to add new vault toilets in the campground area. Proposed mitigation measures will employ best management practices to prevent unknown resources or sites from being adversely affected.

#### ***Historic Structures***

There are no historic resources in the area that will be affected by implementation of the selected alternative. The historic Visitor Contact/Ranger Station and Postpile Joe Cabin ruins and other historic structures listed on or eligible for the National Register are outside of the project area for installation of the septic tanks, leachfields, and potential conversion of the campground comfort station to vault toilets. There will also be no effect from maintaining the campground comfort station in its current location, or from constructing new vault toilets to serve peak season use.

Although constructing the day use comfort station closer to the Visitor Contact/Ranger Station has the potential to affect the setting of the building since the new building will be fairly close to it (55 feet away), designing the structure with architectural elements compatible with the Visitor Contact/Ranger Station will reduce potential effects. Other elements associated with the significance of the historic Ranger Station, including location, design, workmanship, and association will be the same and will be unaffected by proposed actions. In addition, designing the new structure in consultation with the SHPO will minimize the potential for adverse effects that might affect the listed status of the historic ranger station for the National Register.

#### Archeological Resources and Historic Structures Conclusion

Although there will be a potential for impacts on archeological resources, and a potential for impacts on historic structures, there will be no impairment.

#### ***Conclusion***

In conclusion, as guided by this analysis, good science and scholarship, advice from subject matter experts and others who have relevant knowledge and experience, and the results of public involvement activities, it is the Superintendent's professional judgment that there will be no impairment of park resources and values from implementation of the selected alternative.



## **Appendix D**

### **Signed Floodplain Statement of Findings**

(see attachment: DEPO FSOF\_final.pdf)